

Restrained Policy and Careless Execution: Allied Strategic Bombing on The Netherlands in the Second World War

**A Monograph
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Abstract

RESTRAINED POLICY AND CARELESS EXECUTION: ALLIED STRATEGIC BOMBING ON THE NETHERLANDS IN THE SECOND WORLD WAR by Maj Joris A.C. van Esch, Royal Netherlands Army, 53 pages.

This monograph examines the nature of Allied strategic bombing on The Netherlands in the Second World War. It discusses the endless controversy on strategic bombing and classifies its discourse into six different narratives. It adds the policy of bombing occupied countries, especially the Dutch involvement in bombing policy development, a quantitative analysis of bombing on The Netherlands, and three case studies to the existing narrative. The study concludes that Allied bombing policy towards The Netherlands sought to maintain a balance between the usefulness of bombing and the risk of collateral damage. Further, it reveals the absolute magnitude of the bombing campaign in The Netherlands, which contrasts with existing history. This monograph concludes that the nature of strategic bombing on The Netherlands, notwithstanding the fact of sincere intentions and restrained policies, was that the execution of the bombardments regularly failed to attain the defined bombing goals. These failures in execution caused extensive collateral damage, as illustrated by three case studies in this monograph, bombardments on Amsterdam, Nijmegen and The Hague.

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Introduction

“They have to return it to the Krauts with interest.”¹ Supposedly, that was the general opinion in The Netherlands about the Allied air offensive in 1943. Although there were already hundreds of Dutch casualties and the bombardments had caused severe collateral damage, the official Dutch history of the Second World War by eminent historian Lou de Jong asserts that the larger part of the Dutch population still greeted the Allied offensive with general approval. Besides, the Dutch population rejoiced at the bombers they saw heading to bomb Germany.² For example, a twenty-eight years old engineer in the Dutch city Delft, commented in his diary in November 1943: “now they [the Nazi’s] are bombed in a similar way, but tenfold – as a punishment for all the dead soldiers, murdered hostages, deported and tortured Jews, for prisons filled with prisoners, robbery, plundering and finally for moral decline in wartime.”³ Furthermore, De Jong argues often the local population cheered at crews of Allied aircraft, which had to execute an emergency landing. Obviously, this reaction touched on a sore spot of the Nazi occupiers, and in August 1943 the people of the city Schiedam had to pay a considerable fine and were imposed a curfew for three weeks after such an incident.⁴ At first glance, this official history seems a partisan analysis, but it could also reflect the post-war era it was written, when events were defined in black-and-white.

It is obvious that the air war above Europe during the Second World War was a grueling and bitter battle. There are many books about this subject, discussing the Allied bomber units and

¹Lou de Jong, *Het Koninkrijk der Nederlanden in de Tweede Wereldoorlog*, Vol. 7a (Den Haag, The Netherlands: Staatsdrukkerij, 1969), 480.

²Ibid.

³Ibid., 481.

⁴Ibid. In contrast with this, discovering direct help to crews of downed Allied aircraft usually caused a death warrant from the Nazi Occupiers. For example, already in August 1941 this was the dire fate of five inhabitants of the Dutch village Westmaas, who gave clothes, food and money to the crew of a downed British Wellington. *Source*: A. Korthals Altes, *Luchtgevaar: Luchtaanvallen op Nederland, 1940-1945* (Amsterdam, The Netherlands: Sijthoff, 1984), 85.

their achievements, the area bombings of German cities, and the moral debate on strategic bombing. However, the narrative is not yet complete: especially the debate on collateral damage of the Allies.⁵ Furthermore, bombardments in occupied countries like The Netherlands, have not received much academic attention in the Anglo-American discourse. In addition, Dutch post war historiography often did not know how to cope with these bombardments and their collateral damage.⁶ This is understandable, as the Allies intended no harm and the bombardments were part of the liberation process. As an illustration, the official Dutch history devotes about twenty pages to the German bombardment on Rotterdam in May 1940, and only a few to the American bombardment of Nijmegen in February 1944, although they caused a similar number of casualties.⁷ Finally, there are also numerous Dutch accounts of bombardments on specific cities, but comprehensive studies remain lacking.⁸

Therefore, what was the nature of Allied strategic bombing on The Netherlands in the Second World War? To position itself within the historic discourse, this monograph will describe the endless controversy on strategic bombardments, the policy of bombing occupied countries, and especially the Dutch involvement in bombing policy.

⁵See for example: William I. Hitchcock, *The Bitter Road to Freedom: A New History of the Liberation of Europe* (New York: Free Press, 2008).

⁶Chris van der Heijden, *Grijs Verleden: Nederland en de Tweede Wereldoorlog* (Amsterdam, The Netherlands: Contact, 2001), 300.

⁷Ibid. An explanation is that the Rotterdam bombardment directly caused the capitulation, while the Nijmegen bombardment was a faux-pas.

⁸See for an extensive overview of Dutch sources: *Verliesregister 1939-1945, Alle Militaire Vliegtuigverliezen in Nederland Tijdens de Tweede Wereldoorlog* (Den Haag, The Netherlands: Studiegroep Luchtoorlog 1939-1945, 2008), 141-143.

Endless Controversy

Strategic bombing in the Second World War is a topic of seemingly endless controversy.⁹ According to historian David McIsaac, who analyzed the discourse with regard to the air war in Western Europe, controversy has centered on four different topics. First and probably most controversial is the discussion on the ineffectiveness and inhumanity of Royal Air Force (RAF) Bomber Command's avowed policy of area bombing directed against German civilian morale. Second topic is the long-delayed effectiveness of United States Strategic Air Forces (USSTAF) precision bombing efforts, often described as the fallacy of daylight high altitude precision bombing theory. The third subject of controversy is "the drift of the U.S. attacks by early 1945 towards a bombing effort more club like than sword like."¹⁰ This controversy often overlaps with the first one. The final point of controversy is whether the immense material and human resources devoted to the bombing campaign might have been better employed in other ways, given that victory through air power alone proved unattainable.¹¹

Historian Kenneth Werell elaborated on this fourth controversy, by plainly comparing the costs and accomplishments of strategic bombing.¹² The bombing efforts against Germany were large and costly for all those concerned. Probably as much as twenty-five percent of both the British and American war effort went into the bombing offensive.¹³ Often the question arises what else might have been done with these resources. Determining these so-called opportunity costs is however a futile question as "historical questions and hypotheses that begin with *if* cannot

⁹David MacIsaac, "Voices From the Central Blue: The Air Power Theorists," in *Makers of Modern Strategy*, ed. Peter Paret (Princeton: Princeton University Press, 1986), 624.

¹⁰Ibid., 636.

¹¹Ibid.

¹²Kenneth P. Werell, "The Strategic Bombing of Germany in World War II: Costs and Accomplishments," *The Journal of American History* Vol. 73, No. 3 (1986): 707.

¹³Ibid.

be resolved.”¹⁴ Besides opportunity costs, the Allied powers also had operational costs. Thanks to the accuracy and completeness of the historical records, these are much clearer. Bomber Command lost 8,325 bombers and not less than 64,000 aircrew casualties on operations. The USSTAF lost 8,237 bombers and 3,924 fighters, as well as 73,000 crewmembers, of which about 29,000 died.¹⁵ To put this in perspective: the American losses in the air war account for about a quarter of American combat deaths during the Second World War.¹⁶

On the receiving end, there were tremendous costs as well. The bombing campaign literally destroyed numerous European cities, most of them German.¹⁷ Obviously, the loss of civilian life was also enormous. Figures of civilians killed by Allied strategic bombing vary in between 600,000 and 800,000, the majority of them in the course of deliberately indiscriminate attacks on urban areas.¹⁸ The overwhelming majority of these victims were German civilians. Further, other figures on devastation caused by strategic bombardments are enormous as well, with no less than seven and a half million Germans homeless after the war.¹⁹ In addition, American and British bombs killed a sizable number of civilians in the Nazi-occupied countries, of which France lost the most dead as result of Allied bombs.²⁰ Estimates about the number of

¹⁴Lee Kennett, *A History of Strategic Bombing* (New York: Scribner, 1982), 182.

¹⁵Werell, “The Strategic Bombing of Germany in World War II,” 707.

¹⁶Roger Beaumont, “The Bomber Offensive as a Second Front.” *Journal of Contemporary History* 22, no. 1 (1987), 13.

¹⁷In all, the Allied bombing devastated over 600 acres in each of twenty-seven German cities, the approximate area the Germans destroyed in London. Berlin and Hamburg lost more than 6,000 acres each. *Source*: Werell, “The Strategic Bombing of Germany in World War II,” 707.

¹⁸A.C. Grayling. *Among the Dead Cities : the History and Moral Legacy of the WWII Bombing of Civilians in Germany and Japan*. (New York: Walker & Co., 2006), 5.

¹⁹Kennett, 182.

²⁰Werell, “The Strategic Bombing of Germany in World War II,” 707. Because of recent interest and scholarship, the French civilian dead numbers have been revised up to 75,000. *Source*: Jacques Frémeaux, “Introduction,” *Les Bombardements Alliés sur la France Durant la Seconde Guerre Mondiale: Stratégies, Bilans Matériels et Humains*, ed. Michèle Battesti and Patrick Facon (Vincennes, France: Ministère de la Défense, 2009), 7.

Dutch killed by Allied bombardments vary in between 8,000 and 10,000.²¹ Without a doubt, the bombing campaign was expensive in resources, casualties, and devastation. Therefore, a recurring debate centers around what strategic bombing accomplished: was it worth it?²²

Analyzing costs, deaths and destruction are relatively uncomplicated, but determining accomplishments is more difficult. This lack of clarity fuels the bombing controversy.²³ Werell argued that strategic bombing did not achieve its self-defined main goals: “it neither broke German morale nor deprived the German military of needed weapons . . . [and was] not a clean, quick, cheap, surgical, or revolutionary force.”²⁴ However, one could discern at least three major achievements of the Allied Combined Bomber Offensive: the defeat of the Luftwaffe, the diversion of the German war machine, and the destruction of key elements of the German economy.²⁵ In addition to this, Richard Overy’s authoritative history of the air war mentions the German “diversion of effort from the eastern front at a critical point in that struggle, and the successful preliminaries to D-day,” which according to him belies claims that bombing was a “strategy of squandered effort.”²⁶

²¹A primary source at The Dutch National War Institute NIOD (Amsterdam, The Netherlands) analysed there were about 8,000 people killed after 15 May 1940 (note: this is *after* the German bombardment on Rotterdam). According to Korthals Altes, this analysis is both incomplete and incorrect though. He estimated that about 10.000 people were killed. *Source*: Korthals Altes, 324. Appendix 1 lists the bombardments on Dutch soil with the most casualties. In total, the Second World War caused about 250.000 deaths in The Netherlands (about half of them were deported Jews). *Source*: http://niod.em-cultuur.nl/nl/CijfermateriaalDuitsebezetting.htm#_ftn4 (accessed 26 September 2010).

²²Werell, “The Strategic Bombing of Germany in World War II,” 710.

²³*Ibid.*

²⁴*Ibid.* In a more recent book, Werell argued slightly differently that the Allied air campaign’s most important results were limited to its contribution to the defeat of the Luftwaffe, and interrupting the flow of German oil only. *Source*: Kenneth P. Werrell, *Death From the Heavens: a History of Strategic Bombing* (Annapolis, MD: Naval Institute Press, 2009), 125-127.

²⁵Werell, “The Strategic Bombing of Germany in World War II,” 711.

²⁶Richard Overy, *Why the Allies Won* (New York: W.W. Norton, 1995), 130. Further, historians have argued that after Britain had been thrown out of the continent in 1940, the bombing campaign became the only means of striking at Nazi-Germany. However, that argumentation has the benefit of hindsight: the attack on the Soviet-Union was not known when the British bomber offensive was launched. *Source*: Azar

Both British and American official histories, which appeared shortly after the war, claimed a major role for strategic bombing: Bomber Command “made a contribution to victory which was decisive.”²⁷ The overall conclusion of the United States Bombing Survey even claimed boldly “Allied air power was decisive in the war in western Europe.”²⁸ Several decades later, this debate remains ongoing. In the contemporary discourse, claims are more nuanced, and different scholars generally agree the results were more limited than the official histories suggest.

As Werell argues for example, the credit hinges on the definition of *decisive*:

“Certainly air power was important, but it was just one of several factors that won the war. In the European theater, the principal agent of victory was the Soviet army. ... In hindsight it appears that the connection of air power with cutting edge technology, the romantic aura of aviation, and the spotlight of wartime publicity gave the airmen more credit than their actions merited.”²⁹

While the discourse may well re-erupt in future historiography and in politics, Roger Beaumont argues that “many aspects can never be brought into clear focus; it was a brutal stratagem used against a system built upon adulation of force and brutality.”³⁰ Overy puts it differently: “the bombing offensive, whether used for tactical purposes or against strategic targets in Germany, created the conditions necessary for the transition for the Allies from defensive to offensive strategy.”³¹ Finally, he argues that the question is not whether air power was important, but how important it was: “the only conclusion the evidence bears is the more negative

Gat, *A History of Military Thought: From the Enlightenment to the Cold War* (Oxford: Oxford University Press, 2001), 791.

²⁷Charles K. Webster and Noble Frankland, *The Strategic Air Offensive against Germany, 1939-1945*, History of the Second World War; United Kingdom Military Series (London: H.M. Stationery Off, 1961), Vol. III, 310.

²⁸United States Strategic Bombing Survey, *Over-all Report (European War)* (Washington, DC: Government Printing Office, 1945), 107.

²⁹Werell, *Death From the Heavens*, 125.

³⁰Beaumont, 16.

³¹Richard Overy, *The Air War, 1939-1945* (New York: Stein and Day, 1980), 203.

conclusion that victory for either side could not have been gained without the exercise of air power.”³²

Returning to the categorization of controversy, critics of the bombing campaign usually focus on other aspects than costs and accomplishments.³³ As philosopher Anthony Grayling argues, moral questions about Allied bombing are deeply controversial and arouse strong feelings. It is apparent considering the terms different scholars use: is it the Bomber Offensive, carpet-bombing, morale bombing, saturation bombing, obliteration bombing, mass bombing, or just Strategic Bombing?³⁴ For example, a decade after the war, the former head of Bomber Command, Air Chief Marshal Arthur Harris, a highly controversial figure for bombing German civilians, acquired the mocking nickname Bomber Harris.³⁵ As Herman Knell expresses aptly in his history of the bombardment on Wurzburg, Germany in March 1945: “the subject of area attacks is so loaded with controversy that historians, academic and military alike, to this day are divided as to the ethics, necessity, success and efficiency of it.”³⁶ Finally, as another illustration of this controversy, eminent historian Bernard Brodie’s observation that “[strategic bombing’s] pure strategic successes, however far-reaching in particular instances, were never completely convincing to uncommitted observers,” caused committed observer General Ira Eaker, wartime commander of the USSTAF, to describe this analysis as “a slanted, prejudiced view wholly unrelated to the facts.”³⁷

³²Ibid., 205.

³³Werell, “The Strategic Bombing of Germany in World War II,” 711.

³⁴Grayling, 1.

³⁵Ronald Schaffer, *Wings of Judgment: American Bombing in World War II* (New York: Oxford University Press, 1985), 37. Opinions on Harris are sharply divided though, and admirers appreciated Harris nickname.

³⁶Herman Knell, *To Destroy a City: Strategic Bombing and Its Human Consequences in World War II* (Cambridge, MA: Da Capo Press, 2003), 332.

³⁷Bernard Brodie, *Strategy in the Missile Age* (Princeton: Princeton University Press, 1965), 107. See also: MacIsaac, 636. Note: In a later book, Brodie came to a slightly different view though. Concerning

Strategic Bombing Narrative

Mainly as result of this ongoing discourse, literature on air power in the Second World War is so extensive that “the most thorough bibliography, of English sources alone, runs to thick five volumes.”³⁸ The theory of narratives is therefore helpful to analyze and classify discourse on strategic bombing. Narratives are embodiments of one or more points of view rather than objective, omniscient accounts.³⁹ It is, as Eliot A. Cohen and John Gooch described it, “history written in horizontal layers.”⁴⁰ Using this descriptive model leads to the following mental frame to classify the literature.⁴¹

First, one could discern the factual, historical perspective of the bare accounts of the campaign, such as the United States Strategic Bombing Survey.⁴² In addition to this, there is an ample technical narrative, solely discussing different aircraft types both belligerents used, and about specific equipment like such as for example the Norden bombsight. Other narratives seem more heroic and self-congratulatory in nature. This especially encompasses (auto) biographies and personal histories of leading Allied air war veterans, which often emphasize the greatness and

the debate whether or not strategic bombing had accomplished its intended objectives, he asserted that “in the end it did, but too tardily.” *Source*: Bernard Brodie, *War and Politics* (New York: Macmillan, 1973), 50.

³⁸MacIsaac, 920.

³⁹Barbara Czarniawska-Joerges, *Narratives in Social Science Research*, Introducing Qualitative Methods (London: Sage Publications, 2004).

⁴⁰Eliot A. Cohen and J. Gooch, *Military Misfortunes: the Anatomy of Failure in War* (New York: The Free Press, 1991), 35.

⁴¹This enumeration of narratives does not include a bibliography. An excellent bibliography is: Cargill R. Hall, *Case Studies in Strategic Bombardment* (Washington, D.C.: Air Force History and Museums Program, 1998), 178-182 and 248-252. More extensive is: Myron J. Smith, Jr., *Air War Bibliography, 1939-1945*, 5 Vols. (Manhattan, KS: 1977-1982).

⁴²The United States Strategic Bombing Survey is not undisputed. As Gentile argues, the survey suffered from institutional bias, both during its formulation and in its subsequent use in postwar policy and budgetary struggles. In addition to this, Gentile argues that the survey have taken on the mystique of “biblical truth.” *Source*: Gian P. Gentile, *How Effective Is Strategic Bombing?: Lessons Learned from World War II to Kosovo* (New York: New York University Press, 2001), 5. For a general history and appreciation of the survey, see: David McIsaac, *Strategic Bombing in World War Two : The Story of the United States Strategic Bombing Survey* (New York: Garland Pub. Co., 1976).

infallibility of the Allied air campaign, such as Haywood Hansell's "*The Air Plan that Defeated Hitler*."⁴³ A fourth narrative is that of air power theorists. Their school of thought assumes strategic bombing was nothing more than the realization of inter-war air theory by the Italian General Giulio Douhet, British General Sir Hugh Trenchard, and the American General William Mitchell.⁴⁴ Furthermore, this narrative considers the bomber campaign as an inseparable part of evolving air theory, which even continues to present day. Fifth, one could discern a more revisionist narrative. Written several decades after initial histories, this narrative emphasizes the costs versus the accomplishments of the campaign, and also the fallacy of precision bombing. This narrative includes the discourse on morale bombardments, and is one of the most extensive.

To conclude, each country has its own perspective on the air campaign. Obviously, American, British and Canadian narratives differ, for example, on the necessity and effectiveness of morale bombing. In addition to these perceptions, there is an extensive German narrative as well, that mainly discusses the ravishing consequences of bombing in Germany. Finally, each of the occupied countries has its own narrative. These narratives are generally missing from any Anglo-American discourse: the predominate narratives simply cut them out. Language barriers are not the only reason. The French story, for example, is almost a mirror image of the British: it focuses on civilian casualties and devastation of French towns.⁴⁵ The Dutch also have their own unique narrative. Unfortunately, the perspectives of larger or more prolific groups have smothered it. A goal of this monograph is to correct this omission.

⁴³Haywood S. Hansell, *The Air Plan That Defeated Hitler* (Atlanta: Higgins-McArthur/Longino & Porter, 1972). Others are more balanced though, for example: Louis Falstein, *Face of a Hero* (South Royalton, Vt: Steerforth Press, 1999).

⁴⁴These interwar air theorists claimed that that air power could restore decisiveness to warfare and that wars could be won in a shorter time. Their doctrines claimed that a surgically precise stroke at the right objective-- the enemy's center of gravity--would ensure its rapid collapse. The main point, which both politicians and the military drew from these theories, is the idea of dominance of airpower through offensive action. As Brodie argues, it closely resembled the Jominian version of Napoleonic warfare: Bernard Brodie, *Strategy in the Missile Age*, 71-106.

⁴⁵Andrew Knapp, "The Destruction and Liberation of Le Havre in Modern Memory," *War in History*, no. 14 (2007), 486.

The Policy Perspective

In the early days of the war, the British developed a well-defined and detailed bombing policy.⁴⁶ As eminent historian Williamson Murray suggests, this policy emerged from the doctrinal innovation in the interwar period, which had crystallized into four interlocking beliefs which provided the *raison d'être* of strategic bombing.⁴⁷ The first was that vital targets in the enemy's war economy existed, could be identified, and were vulnerable to precision bombing. Second, the bombing advocates believed that bomber fleets unescorted by fighters could fight their way through German air defenses without suffering unacceptable losses. They also believed that the bombers, once there, could achieve enough accuracy to destroy the targets. The final assumption was that the bomber force could achieve sufficient intensity of attack against entire target systems vital to German war production that the Germans could not avoid their collapse or find alternatives.⁴⁸ All these assumptions had inherent weaknesses though. If taken independently these were not serious, "but, collectively, the shortcomings were mutually exclusive and thus made the entire concept [of strategic bombing] a tenuous one."⁴⁹ Reinforced by the Allied desire to end the war as quickly as possible, the result of these failing assumptions was, as Tami Biddle argues provocatively, an "aerial Armageddon played out over the skies of Germany and Japan."⁵⁰

After the outbreak of the war, Bomber Command had to learn and adapt quickly during the winter of 1939-1940. As the official British history on the air war by Charles Webster and

⁴⁶Later, as the United States joined the war, this evolved into the Allied bombing policy.

⁴⁷Williamson Murray, "Strategic Bombing: The British, American, and German experiences," in *Military Innovation in the Interwar Period*, ed. Williamson Murray and Allan R. Millet, 96-143. (New York: Cambridge University Press, 1996), 125.

⁴⁸*Ibid.*, 127.

⁴⁹Thomas A. Fabyanic, *Strategic Air Attack in the United States Air Force: A Case Study* (Manhattan, KS: Military affairs/Aerospace historian, 1976).

⁵⁰Tami Davis Biddle, *Rhetoric and Reality in Air Warfare: The Evolution of British and American Ideas About Strategic Bombing, 1914-1945*, Princeton Studies in International History and Politics (Princeton, N.J.: Princeton University Press, 2002), 9.

Noble Frankland indicated, the character of the initial activities of Bomber Command can be described as “trial and error . . . [and] may seem almost paltry.”⁵¹ According to Werell, British strategic operations until 1941 were the mirror image of failed German strategic bombing initiatives. Initially, Bomber Command met stiff resistance, both fighters and air defense, and had a lack success as well. As a result, the British had to turn to night operations, and discovered that night bombing decreased both losses and effectiveness.⁵² A well-known British government report in 1941 indicated that only twenty-two percent of the bomber crews got within five miles of their targets. When bombing heavily defended targets, such as in the Ruhr Valley, the number even fell down to no more than seven percent.⁵³

When the Germans invaded and occupied The Low Countries and France in early May 1940, strategic bombing really began for the Allies. The German bombardment of the Dutch city of Rotterdam ended the period of restraint in warfare for the British government. As Kennett described it: after the Rotterdam bombardment, “the gloves were off” for Bomber Command.”⁵⁴ Furthermore, the Rotterdam bombardment ended British hopes that the Germans would apply a code of morals in the West, different from that which Poland had experienced.⁵⁵

⁵¹Webster and Frankland, Vol. I, 190.

⁵²Werell, “The Strategic Bombing of Germany in World War II,” 703.

⁵³Ibid. Initially, Bomber command had difficulties with navigation and bombing accuracy. In the summer of 1941, bombing efficiency was investigated by a member of the British War Cabinet Secretariat, Daniel Butt. His report had devastating conclusions. Aircraft failed to locate their target and hit them accurately. The report indicated that the bombing campaign was a wasteful and futile effort. The Butt-report was instrumental in the change of bombing policy. *Source*: Grayling, 46-47.

⁵⁴Kennett, 112. Also, the bombardment on Rotterdam was not the first aerial bombardment of a city in the Second World War: the Luftwaffe had already bombed Warsaw on September, 25 1939. *Source*: Knell, 166.

⁵⁵Webster and Frankland, Vol. I, 144.

Allied Policy Development

To analyze the official Allied policy on bombing occupied countries, one could build on the analysis of Lindsey Dodd and Andrew Knapp.⁵⁶ Although they discuss how bombing policy towards France was developed, their analysis and methodology partly applies to The Netherlands as well. They argued that two constraints guided development of the initial bombing policy. The availability of aircraft and bombs was the most important constraint until 1944. Political and operational pressures were the second and most important constraint. Further, they demonstrate that bombing policy debate was developed in many different forums, and mainly emerged as official directives. Yet, these instructions were defined broadly: their implementation still depended both on the enemy and weather situation.⁵⁷

The British also issued general bombing policy statements, guiding the more specific directives. The first statement that requires attention, is that of June, 4 1940: it specifies the rules of engagement, and also declared that intentional bombing of civil populations was illegal: “no . . . bombing is allowed to degenerate into mere indiscriminate action.”⁵⁸ Targets had to be identifiable, and care should be taken to avoid civilian casualties.⁵⁹ In the course of the war, there was however a radical shift in bombing policy.⁶⁰ A year later, the directive of July, 9 1941 stated bluntly: “to direct the main effort of the bomber force . . . towards destroying the morale of the

⁵⁶Lindsey Dodd and Andrew Knapp, “How Many Frenchmen Did You Kill? British Bombing Policy Towards France,” *French History* 22, no. 4 (2008).

⁵⁷Dodd and Knapp, 471.

⁵⁸Webster and Frankland, Vol. III, 113.

⁵⁹Dodd and Knapp, 474.

⁶⁰The Butt-report (see note 53) was instrumental in the change of bombing policy: Grayling, 46-47.

civil population as a whole and of the industrial workers in particular.”⁶¹ The policy statement of October, 29 1942 reflected this shift to unrestricted warfare.⁶²

As a result of the directives and statements, the Allied bombing effort shifted from an operational interdiction strategy to a Douhetian-like strategy of damage on population centers.⁶³ For the rest of the war, population centers remained the main focus of the RAF, although a significant effort was again diverted to interdiction in support of the Western Front in 1944 and 1945.⁶⁴ In contrast with the policy change, the October, 29 1942 statement reproduced much of the June 1940 policy with regard to occupied countries and civilian casualties though: “if any doubt exists as to the possibility of accurate bombing and if a large error would involve the risk of serious damage to a populated area, no attack is to be made.”⁶⁵

Similar to Dodd and Knapp’s analysis of bombing policy directives regarding France, one could evaluate the different policy directives regarding The Netherlands. Forty-five directives were issued to Bomber Command, and later the USSTAF, between April, 13 1940 and April, 16 1945. Of these, twenty-five concern The Netherlands either directly or indirectly. Their main objectives can be considered under six categories: operational interdiction (ground support), bombing airfields, - ports and shipping, - aircraft industry, - industry, and finally attacks on V-weapons launching sites.⁶⁶ Table 1 shows these bombing directives with regard to bombing Dutch soil, combined with the different mission categories.

⁶¹Webster and Frankland, Vol. I, 136 and 144. The directive of 14 February has a similar mission.

⁶²Dodd and Knapp, 474.

⁶³See also note 44. For Douhet’s theory, see: Giulio Douhet, *The Command of the Air* (Tuscaloosa, AL: University of Alabama Press: 2009).

⁶⁴Robert Anthony Pape, *Bombing to Win: Air Power and Coercion in War*, Cornell Studies in Security Affairs (Ithaca, N.Y.: Cornell University Press, 1996), 269.

⁶⁵Ibid., 474.

⁶⁶Ibid. The categorization is slightly different from Dodd and Knapp. When the USSTAF entered the war, they generally used the same directives. See for a discussion of the command structure of Bomber Command and USSTAF: Overy, *The Air War*, 127-148. The analysis does not take the discourse on the effectiveness of bombing and the different policy directives resulting into account. An illustration of this is

Date of directive	Bombing Categories					
	Operational Interdiction	Airfields	Ports and shipping	Aircraft Industry	Industry	V-weapons
13 April 1940	1					
30 May 1940	1					
20 June 1940		2				
4 July 1940		2	2			
13 July 1940			1	2		
24 July 1940				1	2	
21 September 1940		2	1	2		
30 September 1940		2	1	2		
30 October 1940		2	1	2		
15 January 1941			1			
9 March 1941			2	2		
21 January 1943		2		2	2	
3 June 1943		1		1		
10 June 1943		1		1		
3 September 1943				2	2	
28 January 1944						2
17 February 1944		1				2
4 March 1944				2	2	
17 April 1944						1
14 September 1944	1	2			2	
25 September 1944	1	2			2	
1 November 1944	1				2	
15 January 1945	2	1			2	
19 January 1945	2	1			2	
16 April 1945	1	2				

Table 1: Aims of bombing policy regarding The Netherlands.
Based on the importance of each aim within each directive, this table distinguishes primary objectives (1) and secondary objectives (2).⁶⁷

the attitude of Churchill in March 1942, somewhere between resignation and cynicism regarding the air offensive. "Bombing is not decisive, but better than doing nothing." *Source*: Beaumont, 6.

⁶⁷Methodology and some of the categories are derived from: Dodd and Knapp, 479. They conducted a similar analysis regarding France. The original texts of the directives are reprinted in: Webster and Frankland, Vol. IV, 118-172.

This table outlines the official bombing policies regarding The Netherlands, and their development. In addition, these directives identify the legal framework and rules of engagements for the different attacks. If one is familiar with the general course of the Allied air and ground campaign in the Western-European theatre of war, Table 1 also reveals how bombing policy evolved analogous to the general course of the conflict. First and most important category is operational interdiction, or ground support. This included tactical bombardments in support of Dutch and French troops fighting in The Netherlands during the first days of the war.⁶⁸ Although the Dutch surrendered May, 15 1940, later directives still specify ground support bombardments, obviously as a result of continued fighting in France, and the evacuation of Dunkirk on June, 4 1940. It took four years before interdiction operations returned to The Netherlands.

Very soon after the conquest of The Netherlands, the Luftwaffe settled on several former Dutch airfields.⁶⁹ The closer distance to Britain was a strategic advantage in the unfolding Battle of Britain. Clearly, this did not escape attention of Bomber Command, and the directives of June, 20 1940 and later specified these airfields as their targets. These airfields, the second category, remained as a target for the remainder of the war, although the intensity and priority shifted several times. Next, one could discern a shift to the bombing of ports and ships. This directive is linked with the expected German invasion of England. The British were obviously afraid Dutch soil might become the “jumping-off area” for this invasion.⁷⁰ Therefore, the directive of July, 4 1940 specified: “first priority . . . on enemy ports and shipping against the threat of an invasion . . . [including] Rotterdam and other ports in Holland.”⁷¹

⁶⁸In May 1940, the French conducted ground operations in the Southern part of The Netherlands.

⁶⁹See for an extensive discussion of the activities in or above The Netherlands of both the GAF and RAF in the summer of 1940: Korthals Altes, 60-69.

⁷⁰Webster and Frankland, Vol. I, 146.

⁷¹Ibid., Vol. I, 118.

The destruction of Dutch aircraft factories working for the German war industry was the major aim in the next phase of the air war. Already on July, 13 1940, the British Air Ministry realized that “to gain the most immediate effect . . . aircraft factories should be destroyed.”⁷² This also included aircraft industry in The Netherlands, which had to switch to producing and assembling German aircraft, the fourth target category. The fifth category is closely linked, and encompassed Dutch industry in general, with such attacks aimed to disrupt the German war production. Furthermore, these raids were also seen as benefiting the Allies’ political standing in Europe. In the words of British Foreign Minister Anthony Eden, when reacting on raids on French factories in April 1942: “our allies in every occupied territory are crying out for similar raids.”⁷³ However, although earlier directives specified the Dutch industry as a target, only after the POINTBLANK directive of June, 3 1943, did these targets become more important. They remained a secondary target throughout the war. Finally, in early 1944 the Allied efforts to suppress the evolving threat of German V-weapons became a major priority. Because of the distance, the Germans launched many of these weapons from occupied Dutch, Belgian, or French soil. Both Bomber Command and USSTAF tried to find and bomb these V-weapons sites. The directives of January, 28 1944 and later specified these so-called “CROSSBOW-targets.”⁷⁴

Therefore, this analysis of policy directives reveal that Allied bombing targets in The Netherlands were always secondary targets.⁷⁵ There are two exceptions to this general rule: the operational interdiction in the opening phase of the war in May 1940, and from late 1944 during the Allied ground operations in Western-Europe. Second, the bombing policy and usefulness of bombing always had to be balanced against the political objections attached to collateral damage,

⁷²Ibid., Vol. I, 120.

⁷³Dodd and Knapp, 477.

⁷⁴Webster and Frankland, Vol. I, 163.

⁷⁵Note: Table 1 only distinguishes target *categories* used in policies, not specific targets.

such as killing Dutch civilians. For that reason, the British Air Ministry retained political control of bombing policy. This control was much more restrictive than in the case of bombardments on Germany, and sometimes even extended to the control of single bombing raids.⁷⁶

Dutch Involvement in Bombing Policy

In May 1940, as the Germans swept across The Netherlands in only five days, Dutch Queen Wilhelmina and the Dutch government escaped to London to establish a government-in-exile. After its escape, the government attempted to maintain its power as much as possible.⁷⁷ However, as Dutch historian Christ Klep notes, The Netherlands' position amongst the Allies was second-rate, even when plans directly involved its soil. Three elements contributed to this lack of influence: manpower, economic power and a significant, organized resistance.⁷⁸ Furthermore, the loss of the Dutch East Indies (modern Indonesia) to Japan in March 1942, diminished the influence even more. Probably the only entity with a significant role was the Dutch merchant fleet.⁷⁹ As a result, the Allies were not willing to grant major military concessions to smaller countries such as the Netherlands.⁸⁰ Yet, the air campaign seems to contradict this principle. Early on, the Dutch government realized it was impossible to prevent Allied bombardments on military targets, and targets essential for the German war effort, such as command posts, radar

⁷⁶Dodd and Knapp come to a similar conclusion regarding bombing France. *Source*: Dodd and Knapp, 492.

⁷⁷See for extensive discussion of the Dutch government in exile in London during the Second World War: De Jong, Vol. 9a and 9b.

⁷⁸*Source*: Christ Klep and B. Schoenmaker, *De Bevrijding van Nederland, 1944-1945 : Oorlog op de Flank* (Den Haag, The Netherlands: Sdu Uitgeverij Koninginnegracht, 1995), 78.

⁷⁹Van der Heijden, 264.

⁸⁰However, the mutual relationships remained very correct and polite throughout the war. As a British civil servant of the Foreign Service assessed after the war: "[...] taken by and large, the Dutch have given us very little trouble." *Source*: Klep and Schoenmaker, 78. For a discussion on the lack of power of the Dutch government during the war, see De Jong, Vol. IXa, 657.

installations, airfields and harbors. However, they tried to limit damage to civil targets, including industrial complexes.⁸¹

A key figure in the relationship in between the British Air Ministry, RAF, the USSTAF and the Dutch government during the entire period of the war was Royal Dutch Navy Commander Cornelis Moolenburgh. Before the war, he was the Dutch deputy Navy attaché in London, and his initial contacts with RAF's Coastal Command gradually evolved into a crucial role.⁸² Furthermore, because Moolenburgh had extensive geographical knowledge of The Netherlands, the government appointed him as permanent liaison to the Air Ministry, and secretary to the Dutch government's Bombing commission.⁸³ Moolenburgh gained the Air Ministry's confidence because of his cooperation in the detailed planning of numerous bombardments on Dutch soil. On the other hand, he strongly advised against bombing missions and air attacks he considered useless. For example, Moolenburgh successfully protested against the RAF's plan in April 1941 to bomb the main Dutch power plants in order to disrupt German anti-aircraft artillery. He considered this attack pointless: not only because the German anti-aircraft artillery had its own generators, but also because the loss of power would disrupt drainage of the Dutch polders, causing whole Dutch province North-Holland to inundate.⁸⁴

As a result of both the bombing policy directives and this extensive coordination, Bomber Command had defined specific restrictions on bombing The Netherlands. To develop this view, Klep argues this was however more the result of the general war situation than Dutch pressure: the air campaign in The Netherlands was subordinate to the overall air campaign. Central to this

⁸¹Ibid.

⁸²Alfons Brinkhuis, *De Fatale Aanval, 22 Februari 1944: Opzet of Vergissing? De Waarheid over de Mysterieuze Amerikaanse Bombardementen op Nijmegen, Arnhem, Enschede en Deventer* [The Fatal Attack: Intention or Mistake? The Truth About the Mysterious Bombardments] (Weesp, The Netherlands: Van Hoorn, 1984), 130.

⁸³The bombing commission was an official Dutch government entity, which tried to coordinate and control bombardments on Dutch soil.

⁸⁴Korthals Altes, 79.

argument is that most restrictions on bombing disappeared the moment Allied troops reached Dutch soil in 1944.⁸⁵

Both the official records on Dutch foreign policy during the war years, and the published diaries of Otto van Lidth de Jeude, the Dutch Minister of Defense from 1942 on, add context to this overall picture. Already in July 1940, a few weeks after the fall of The Netherlands, there was formal contact in between the Air Ministry and the Dutch government. In a conversation with Dutch Ambassador to the United-Kingdom Michiels van Verduynen, Air Ministry's Vice Air Marshall Sholto Douglas asserted that "great care would be taken not to harm civilian population in bombing missions over The Netherlands."⁸⁶ Furthermore, British War Minister Lord Halifax appreciated the Dutch government's concerns about the bombings, which Germany was using in propaganda campaigns against it. Halifax had urged the British War Cabinet that strict instructions be given to RAF. Additionally, Michiels van Verduynen stated they discussed that bombardments should only be aimed at strict military targets, while avoiding any risk to civilians.⁸⁷ As we will see later, reality evolved different from this intention.⁸⁸

In September 1942, the Council of Ministers' records reveal an example of the British Air Ministry trying to gain Dutch support for air attacks on the rail network in The Netherlands. Moolenburgh's letter to the council states that the Air Ministry only would give freedom of action to the RAF after consulting the Dutch government. Furthermore, the letter mentions that the RAF was willing to drop leaflets as a warning as well.⁸⁹ In a report later that month, Moolenburgh

⁸⁵Klep and Schoenmaker, 78.

⁸⁶Marijke van Faassen, *Documenten Betreffende de Buitenlandse Politiek van Nederland 1919-1945 (Series) [Dutch Foreign Policy Documents 1940-1945]* (Den Haag, The Netherlands: Instituut voor Nederlandse Geschiedenis, 2004), Vol. I, 158.

⁸⁷*Ibid.*, Vol. I, 158. Note: In the same meeting, Michiels van Verduynen and Douglas arranged that Commander Moolenburgh was accepted as a liaison officer.

⁸⁸John A. Lynn, *Battle: A History of Combat and Culture* (Boulder, Colorado: Westview Press, 2003), 360.

⁸⁹Van Faassen, Vol. V, 315.

discusses his experiences as liaison officer with the Air Ministry. He asserts that its planners tried to avoid collateral damage during these attacks. Also, Moolenburgh informed the British that he believed the Dutch population would appreciate the need for the raids. Provided these attacks were carried out with sufficient precision, and believed the Dutch population would give such attacks a hearty welcome: “it would stimulate the resistance to the occupiers.”⁹⁰ Several later letters, Moolenburgh describes his coordination of similar attacks with the RAF in great detail. They reveal the Dutch government was not only informed, but also indirectly involved with bombing planning: they discussed even a draft text of a warning message to be broadcasted.⁹¹ Meanwhile, Nazi propaganda was remarkably well informed of this cooperation. As the diary of Minister of Defense Van Lidth de Jeude narrates on April, 13 1943: “German propaganda used a congratulatory telegram from the Dutch government to the RAF (for their 25th anniversary), to blacken the government’s name, claiming they approved [particular] bombardments.”⁹²

In the following years, the Council of Ministers discussed several bombardments on Dutch soil. On December, 22 1942, the protest about the bombardment on the Philips factory in Eindhoven caused the government to reaffirm its official position:

[The Dutch government’s position on bombardments on Dutch soil is that] this war is a total war, which requires all means, and implies destroying objects which favor the enemy. Based on a similar position in May 1940 during the German invasion, bridges and locks were destroyed, ships were sunk, supplies were burned, and companies were devastated. The same happened later in the Dutch East-Indies. Based on the same position, the Government agrees in principle with the destruction of Dutch industries working for the German occupiers.⁹³

⁹⁰Ibid., Vol. V, 341

⁹¹Ibid., Vol. V, 375 and 453.

⁹²Otto Cornelis Adriaan van Lidth de Jeude, *Londense Dagboeken van Jhr.ir. O.C.A. van Lidth de Jeude 1, Januari 1940 - Mei 1945* (Den Haag, The Netherlands: Instituut voor Nederlandse Geschiedenis, 2001), 957.

⁹³Van Faassen, Vol. VI, 25. The bombardment on the Philips factory provides a curious example of the complicated position of the Dutch government in exile. The records contain an extensive complaint of Dr. Anton Philips, the owner and president of the company, where he wonders why the Dutch government had not informed him in advance about this bombardment. As Philips asserted, this could have lead to a “coordinated attack.” Further, Philips claimed that these attacks on industrial targets would

On the other hand, the council extensively complained about less successful bombardments on several occasions as well. An example is the discussion about collateral damage caused by the USSTAF bombardment on the harbor of Rotterdam on March, 31 1944. This bombardment caused the government to assert this would harm the Allies' reputation in The Netherlands.⁹⁴ In addition, a formal request for explanation about this bombardment, led to the Air Ministry's excuses: "the recent casualties to civilians in Holland . . . have been the cause of grave concern in the Air Ministry."⁹⁵ Furthermore, the Air Ministry added another notable comment to its letter:

. . . it should nevertheless be appreciated that in high altitude bombing it may not always be possible, for operational reasons, to ensure a high degree of accuracy, and the Commanding General of the Eighth Air Force has been instructed to select targets in occupied territories in such a way as to avoid, as far as possible, the risk of inflicting heavy casualties on the civilian population. . . . Your government will, I feel sure, realize the difficulties . . . at the present vital stage of the war.⁹⁶

The minutes of the Government's council the next day, April, 20 1943, only record the excuses though.⁹⁷ In hindsight, the Air Ministry's statement above is an early recognition of the fallacy of high-altitude precision bombing. Apparently, the Dutch Council of Ministers failed to appreciate this remarkable candor. It only concluded the Allies would do everything to prevent a repetition.⁹⁸

increase the chance of transferring the production in the Dutch city Eindhoven to Germany, including the deportation of the Dutch Philips employees. *Source*: Van Faassen, Vol. V, 748.

⁹⁴Ibid., Vol. VI, 335.

⁹⁵Ibid., Vol. VI, 377.

⁹⁶Ibid.

⁹⁷Ibid., Vol. VI, 377-378.

⁹⁸Ibid.

Already the next day, the devastating bombardment on the city of Haarlem belied this claim though.⁹⁹ Again, this led to consternation in the Council of Ministers: what was the real value of those reassuring pledges by the Air Ministry? In their discussion, they considered another official protest.¹⁰⁰ Again, Moolenburgh's letter reveals the rights and wrongs of this case: twelve British Ventura bombers missed their target (a railroad yard) by about 400 meters, and caused havoc in surrounding working-class housing areas. Moolenburgh concluded that the execution of the bombardment was in accordance with the British bombing doctrine though: the bombs fell within the tolerated margin of error. However, he also concluded that target selection completely failed, and was contradictory to standing bombing policy.¹⁰¹ Again, this led to the Air Ministry's apologies. Remarkably, Moolenburgh's point of contact at the Air Ministry revealed that in his opinion, Bomber Command's and USSTAF's units had excessive operational freedom. He claimed that external pressure would help to tighten the bombing directives, and further added to his candid remarks (to Moolenburgh): "now it is up to you to help us, and believe me, you are playing on a good wicket."¹⁰²

For the next two weeks, bombing policy regarding The Netherlands was almost in a state of flux. Moolenburgh gained a position at the Air Ministry to directly advise on a new target list for so-called circus-attacks on Dutch soil.¹⁰³ Meanwhile however, the situation in The Netherlands had changed dramatically. The introduction of the *Arbeitseinsatz* was the immediate

⁹⁹This bombardment on a railway shop in the middle of the city caused 85 civilian deaths. Note: the bombardment took place on 16 April 1943, but the information was only to get through to London a few days later.

¹⁰⁰Van Faassen, Vol. VI, 386.

¹⁰¹Ibid., Vol. VI, 414.

¹⁰²Ibid., Vol. VI, 415.

¹⁰³Ibid., Vol. VI, 415-417 and 443-445. Circus-attacks are short range bomber attacks to destroy ground targets.)

cause of a general strike in occupied Holland.¹⁰⁴ Therefore, as Moolenburgh discusses, Dutch resistance had specifically asked for Allied bombardments on transportation facilities and communication centers. After long deliberations, the Dutch cabinet agreed, and requested these bombardments at the Air Ministry. This coincided with Moolenburgh's mission. However, their request did not have the desired effect, mainly due to the lack of available bombers and the estimated difficulty of hitting the proposed targets.¹⁰⁵

In the meantime, the strategic situation and bombing policy had changed significantly as well. The Casablanca directive in January 1943 and the POINTBLANK directive in June 1943 were a radical change in strategic bombing policy. As a direct consequence, Dutch airfields, and aircraft industry became a higher priority target for the Allied bombers.¹⁰⁶ A new phase in the air campaign dawned. Nevertheless, the limited coordination and cooperation established in the first phase of the war continued all the way through until May 1945. The pattern of regular mistakes by both Bomber Command and the USSTAF continued as well, as did Dutch protests and the usual Air Ministry's apologies.¹⁰⁷ There are several examples of this pattern. When American bombers missed the target during the bombardments on the Fokker aircraft factory in Amsterdam on July, 17 1943, this caused USSTAF General Ira Eaker to remark: "I plead guilty and deeply apologize."¹⁰⁸ Similarly, the council's records mention bombardments on Dutch city Enschede (a navigation error, on October, 10 1943), the apologies for the bombardment of the city Nijmegen

¹⁰⁴*Arbeitseinsatz* was the forced employment of all Dutch men in the German war industry.

¹⁰⁵Van Faassen, Vol. VI, 445.

¹⁰⁶*Ibid.*, Vol. VI, 599. See also: J. L. van der Pauw, *De Bombardementen op Amsterdam-Noord : Juli 1943* (Amsterdam, The Netherlands: Boom, 2009), 24.

¹⁰⁷As Hitchcock argues, the Dutch government always had to restrain its protests though. One should realize the delicate situation the government was in: both in exile and more important, depending on the Allied troops to liberate The Netherlands. *Source*: Hitchcock, 95-115.

¹⁰⁸Van Faassen, Vol. VII, 64.

(a faux-pas, on February, 22 1944), and the Walcheren-peninsula bombardment (extensive collateral damage, October, 3 1944).¹⁰⁹

To sum up, there was significant coordination of bombardments on the working-level, although this was particularly dependant on one individual on the Dutch side. More importantly though, regular political consultations and coordination between the Allied institutions and Dutch government failed to appear. Typically, contacts were incident-driven: regular mistakes by both Bomber Command and the USSTAF, followed by Dutch protests, and subsequent Air Ministry's or USSTAF-leadership's apologies.

The Receiving End

What happened on the receiving end of the bombardments? The main problem for discovering this is the availability and reliability of sources. The RAF and USSTAF records are very detailed and contain information on every single bombardment mission. In contrast, reliable Dutch primary sources appear lacking: it was in the interest of the German occupier either to exaggerate or downplay damage caused by Allied bombardments. Furthermore, the Nazis censored Dutch newspapers, causing these to become a very unreliable source. Secondary sources are imbalanced as well. For example, especially bombardments causing numerous casualties received the bulk of attention in the post-war narrative.

Historical Context

First, one should consider the historical context. In May 1940, as briefly discussed earlier, the Nazis overran The Netherlands quickly. They used unconventional means, such as employing airborne units behind enemy lines, and even German soldiers dressed in Dutch Army

¹⁰⁹Ibid., Vol. VII, 189 and 559. See also: Ibid., Vol. VIII, 220-225. In a conversation with Churchill, the Dutch Prime-minister protested against the collateral damage of the Walcheren bombardment, especially because the lack of coordination. The records reveal a misunderstanding, where a Dutch intelligence officer provided detailed information about the area, without being told that the Allies intended to bomb Walcheren.

uniforms.¹¹⁰ As a result, German forces made good progress in their conquest, but ran into serious resistance in Rotterdam. Dutch troops held the bridges crossing the river Maas, and the German general in charge thought that a “short but devastating air raid” might break the stubborn resistance.¹¹¹ In the chaotic chain of events on May, 14 1940, German dive-bombers attacked Rotterdam, despite ongoing surrender talks with local Dutch military authorities.¹¹² The bombardment caused about a thousand killed, some seventy-eight thousand homeless, and destroyed a considerable part of the city.¹¹³ The Germans explained this bombardment as a tactical move against a defended town, although some of the more bombastic German propaganda was not so careful to indicate circumscription.¹¹⁴ Even today, the debate about the military necessity and circumstances of this bombardment has not yet been completely resolved. The Rotterdam Bombardment is significant because of the severe damage, and it influenced the beginning of the Allied strategic bomber campaign, as discussed earlier. For the Dutch population, this bombardment evolved into one of the defining moments of the Second World War. Perhaps, the bombing established the yardstick for later attacks on Dutch soil, and is still considered as a traumatic experience for the population of Rotterdam.¹¹⁵

¹¹⁰As Robert Citino argues, the use of transport aircraft, glider and paradrop by the Nazis was perhaps the “true operational innovation of the war’s early years.” *Source*: Robert Michael Citino, *Blitzkrieg to Desert Storm: The Evolution of Operational Warfare*, Modern War Studies (Lawrence, Kansas: University Press of Kansas, 2004), 5.

¹¹¹Kennett, 112. See for an extensive discussion on the Rotterdam bombardment: De Jong, Vol. IIa, and Korthals Altes, 45-57.

¹¹²Hitchcock, 99.

¹¹³The bombardment destroyed about 25.000 houses. *Source*: Korthals Altes, 45-57.

¹¹⁴George Quester, “Bargaining and Bombing During World War II in Europe,” *World Politics* 15, no. 3 (1963): 422.

¹¹⁵J.L. van der Pauw, *Rotterdam in de Tweede Wereldoorlog* (Amsterdam, The Netherlands: Boom, 2006).

In spite of this traumatic experience, the Dutch people tried to resume their normal lives, for better or worse.¹¹⁶ Probably, they could neither suspect nor imagine what would happen later. As Dutch historian Chris van der Heijden claimed, they should have realized that the Nazis had already broken all moral laws of humanity in their own country, so they would not hesitate to do the same in occupied countries. However, due to terror failing to appear initially, people failed to grasp this notion.¹¹⁷ Furthermore, not much had changed economically. Before May 1940, the Dutch economy was already interwoven with, and dependant on the German economy.¹¹⁸ This phenomenon lasted three years, until the summer of 1943. It was then that the occupation began to radically change the Dutch citizen's lives. By then, people came to the realization the war lasted longer than they had expected. The Dutch military officers had to go back into captivity, and people had to hand in their radios. The *Arbeitseinsatz* commenced, and that the persecution of Jews became more and more obvious further contributed to this realization.¹¹⁹

Although the general opinion changed in 1943, the number of people in the Dutch resistance was still minimal in comparison with countries like France, Belgium and Denmark. As Van der Heijden asserts provocatively, the Dutch underwent the German occupation with a similar equanimity as the deportation of the Dutch Jews. As a result, the Dutch have to face the often-repeated fact that a Jew in Germany had a better chance to survive the Second World War than in The Netherlands.¹²⁰ Van der Heijden claims this relatively marginal resistance resulted from a lack of war experience, obedience to the government, and a culture of moderation. In

¹¹⁶Van der Heijden, 130. *See also*: De Jong, Vol. IV-VII.

¹¹⁷Van der Heijden, 138.

¹¹⁸*Ibid.*, 177.

¹¹⁹De Jong, Vol. VIIa, 463. In January 1943, the Dutch National Socialist Movement in the Netherlands, a fascist party collaborating with the Nazi occupiers, canvassed a secret opinion. The result revealed that only thirteen percent of the Dutch population believed the Nazis would win the war. It took however two-and-a-half years before the Dutch were liberated. *Source*: Van der Heijden, 285.

¹²⁰Van der Heijden, 285.

contrast with France and Belgium, The Netherlands had not seen war since the Napoleonic era; it was a neutral state before and during the First World War. Furthermore, its culture was conventional and not revolutionary.¹²¹ Van der Heijden's revisionist view, written in 2001, contrasts sharply with De Jong's official history of the Second World War in The Netherlands (dated 1969), where the latter asserts Dutch resistance had an important role.¹²²

Allied Strategic Bombing on The Netherlands – a Quantitative Analysis

Dutch historian Sander Korthals Altes' *Luchtgevaar: Luchtaanvallen op Nederland, 1940-1945* is probably the single most comprehensive study describing bombardments on The Netherlands during the Second World War. It does not provide a quantitative analysis though; rather it focuses on an extensive general narrative and on specific controversial bombardments.¹²³ Therefore, both the records of Bomber Command and the USSTAF are the most reliable primary source enumerating the quantitative data of Allied bombardments. Richard Davis' research in both USSTAF and Bomber Command's records made this data easily available.¹²⁴ The enclosed files are a relatively reliable, and the best available source to determine the dimensions and details of bombardments on Dutch soil.¹²⁵ A database query on these files reveals four main conclusions:

¹²¹See for a more extensive discussion of this subject: Van der Heijden, 285-290.

¹²²See for an extensive discussion of this subject: J.C.H. Blom and Marlies Enklaar, *In de Ban van Goed en Fout: Geschiedschrijving over de Bezettingstijd in Nederland* [under the spell of right and wrong; history of the occupation years in The Netherlands] (Amsterdam, The Netherlands: Boom, 2007).

¹²³Korthals Altes, 62-80.

¹²⁴Richard A. Davis, *Bombing the European Axis Powers: A Historical Digest of the Combined Bomber Offensive, 1939-1945* (Maxwell Air Force Base: Air University Press, 2006). This is a series of electronic spreadsheets (Microsoft Excel format) on a CDROM. Unfortunately, country information lacks for bombardments prior to June 1941. As an indication: both the number of tons dropped and missions dispatched from May 1940 to June 1941 are comparable with the period in between May 1941 and 1942. There is no overview of the bombardments on Dutch soil for this period: the only primary source are probably the individual Bomber Command mission records (USSTAF was not in action above Europe yet). One could get an overall picture from: Korthals Altes, 62-80.

¹²⁵The files have other limitations as well. Most importantly, they do not account for damage on the ground. Furthermore, several significant caveats accompany the files. For example, USSTAF targets do not acknowledge a single instance of city bombing by American aircraft: it systematically changed city

on the magnitude of the bombing campaign, the different types of targets, the amount of bombardments over time and the change in the amount of bombs over time.

The first conclusion is the extensive magnitude of the Allied bombardments on Dutch soil. The records account for 861 Allied missions by bombing units on The Netherlands, in between June 1941 and May 1945. During these missions, 16,880 aircraft were deployed, 163 aircraft were reported lost, and 28,092 short tons of bombs were dropped.¹²⁶ These extensive proportions contrast with the general narrative, which mainly focuses on only a few bombardments.

Although this magnitude is extensive, and much larger than the narrative suggests, it is of minor matter compared to the magnitude of the entire air war above occupied Europe in the Second World War. The different dimensions of bombardments on Dutch soil account for only a few percent of the magnitude of the entire Allied strategic bombing campaign.¹²⁷ In contrast with this, a bigger part of the air was however fought *above* Dutch soil. This is illustrated by the fact that no less than about six-thousand aircraft crashed on Dutch soil in the course of the war.¹²⁸

raids theretofore to other target categories, usually industrial areas. Finally, the files are based solely on the records of USSTAF and Bomber Command bomber units. However, both British and American fighter aircraft had a capability to bomb (with smaller bombs) and attack ground targets as well. The files do not account for these smaller low-level attacks: they only contain high altitude bombings or other operations by bomber units. The sheet key accounts for all the limitations: Davis.

¹²⁶Data based on a Microsoft Excel query on files enclosed with: Davis. Regarding the lost aircraft: The RAF aircraft reported to have lost aircraft as having failed to reach the target until the fall of 1943, when they switched to the American practice (counting lost aircraft in combat). The number of aircraft lost until November, 21 1943 is 126. Regarding the tonnage: this includes three kinds of bombs: high-explosives (24,682 shorts tons), incendiary bombs (581 short tons), and fragmentation bombs (2,829 short tons).

¹²⁷Based on Davis's Data set, these missions account for (about) five percent of the total amount, two percent of the employed bombers, one percent of the losses, and one percent of the tonnage of explosives.

¹²⁸The loss register of all the aircraft lost on Dutch soil, only completed in 2008, accounts for 5954 aircraft. 2817 of these were British, 2107 German, 733 American, 282 Dutch, 13 French, 1 Italian, and 1 Belgian. *Source*: Verliesregister 1939-1945, 11. The same document discusses these aircraft losses and the accompanying statistics extensively.

Next, the files reveal the different types of targets, based on the crew's mission reports.¹²⁹ This provides a general overview of the nature of the missions. Figure 1 lists the main types of targets. Surprisingly, mining missions were the largest category, and account for thirty-four percent of the total number. The majority of these mining missions took place along the Dutch North Sea coast. Bomber Command conducted these mining missions in order to constrain the use of ships, Dutch harbors, canals and rivers by the enemy. Attacks on airfields in The Netherlands are the next category, and account for thirty-one percent. The targets in this category correspond directly with Dutch airfields in use by the Luftwaffe.¹³⁰ As discussed earlier, the Germans made extensive use of those airfields for their offensive and defensive operations. The number of leaflet operations also attracts attention. Besides two exceptions, these leaflet-droppings all occurred during the liberation, in 1944 and 1945. To conclude, the recorded targets in the files generally confirm the target categories outlined in the policy directives, as discussed earlier. In general, the overwhelming majority of the bombardments in The Netherlands were aimed at disrupting both German naval and air operations from Dutch soil. However, there was still a significant amount of strategic bombardments, aimed at disrupting Dutch industry working for the occupiers.

¹²⁹To make a necessary differentiation: the data set only recorded the intended targets; it did not record bombing results.

¹³⁰Verliesregister 1939-1945, 19.

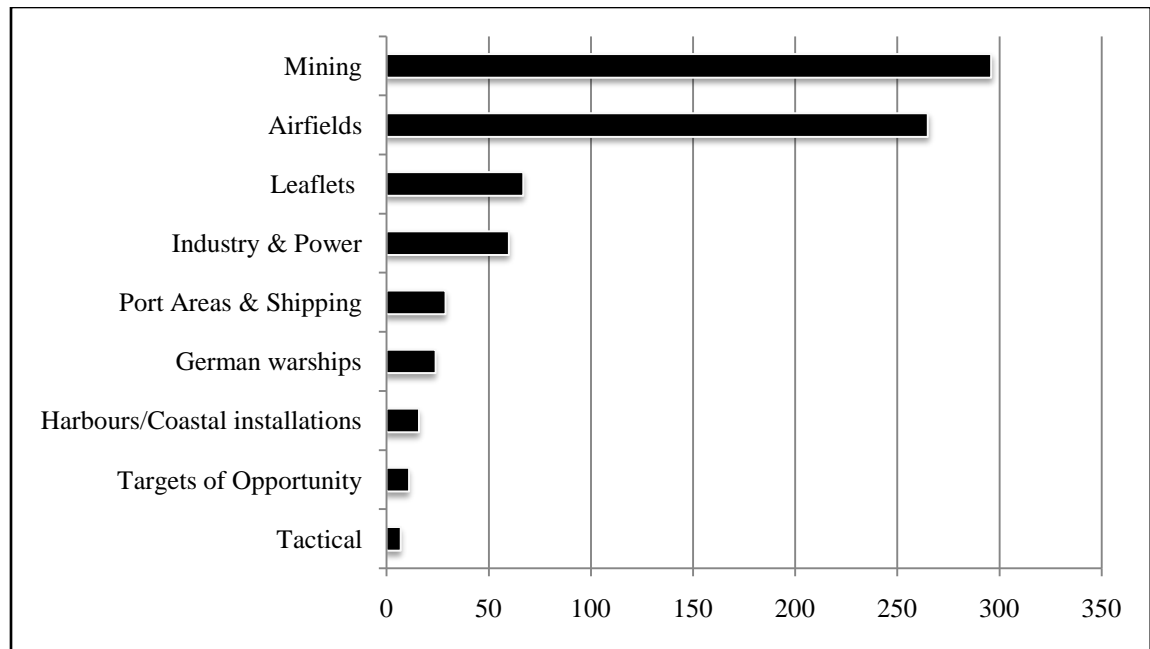


Figure 1: Number of bombardments on The Netherlands, sorted by target type.

Source: Created by author, based on: Davis.¹³¹

The third conclusion the analysis of the files reveals is the change in the amount of bombardments over time (see Figure 2). At first glance, it seems remarkable that June 1942 was the month with the single most bombardments. It seems to contradict both the course of the war and air war itself. It occurred in 1942, prior to the crisis of strategic bombing, the USSTAF entering the air war, and also before the POINTBLANK directive. However, Bomber Command's official history reveals these attacks coincide with the initial bombing offensive gaining momentum.¹³² The well-known milestone in this build-up was the first attack of more than a thousand bombers on July, 15 1942 (bombing Cologne, Germany). Thirty out of forty-two attacks this month were aimed at Luftwaffe airfields in The Netherlands. Because most of these bombardments took place the two weeks before the so-called thousand bomber raids, one could

¹³¹Only the nine largest target categories are shown. Different bombing categories in the data set are combined: for example: "Industry" consists of steel -, chemical - and general industry targets.

¹³²Webster and Frankland, Vol. I, 401.

classify these bombardments as one operation. Furthermore, the bombing policy directives confirm this.¹³³ Current military doctrine would describe such operations as shaping efforts.¹³⁴

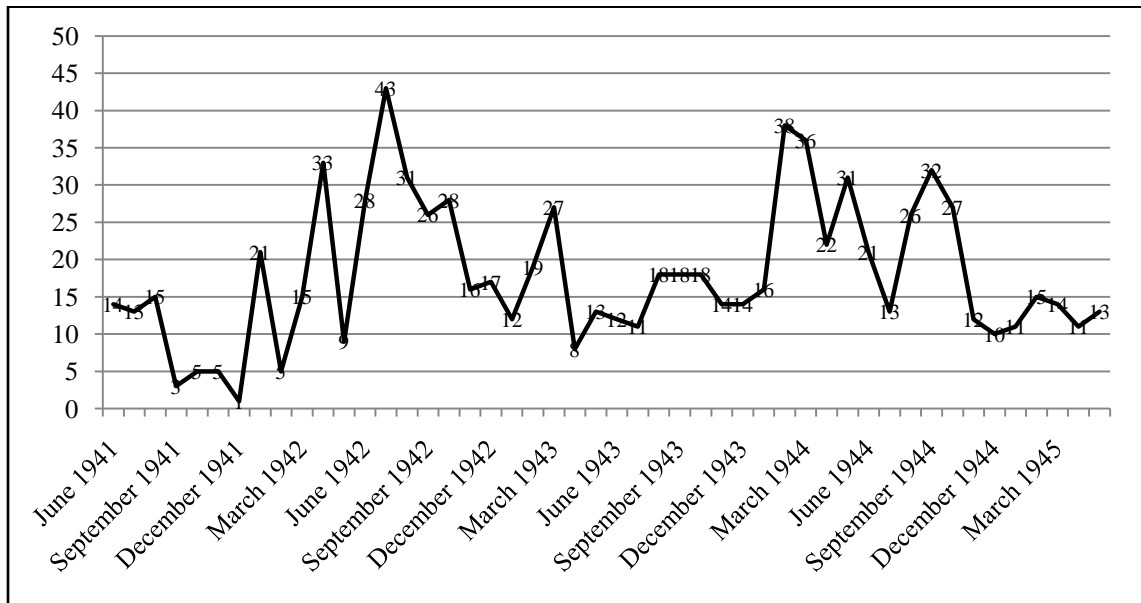


Figure 2: Number of bombing missions on The Netherlands, by month (1941-1945).
The numbers in the graph account for the number of missions in each month.
Source: Created by author, based on: Davis.

To elaborate further on the number of bombing missions: the month with the second most attacks was February 1944. Again, this coincides with the course of the air war: the dates match with “Big Week.” This requires some explanation. In retrospect, the culmination point of the American tactic of (partly) unescorted bombers was probably the failure of the Schweinfurt-Regensburg mission on August, 17 1943.¹³⁵ It took several other disastrous missions to convince

¹³³As discussed earlier (Table 1): the directives of 9 March 1941 (and prior), encompass operations against long range aircraft activities.

¹³⁴United States, *Doctrine for Joint Operations JP 3-0* (Washington, D.C.: Joint Chiefs of Staff, 2001), IV-27.

¹³⁵The subject of non-(long-range) escorted bombers and the introduction of long-range fighter escort is not discussed in this thesis. See for an extensive analysis of this topic: Martin Middelbrook, *The Schweinfurt-Regensburg Mission* (New York: Scribner, 1983).

the USSTAF leadership that their self-defense theory was “a complete failure.”¹³⁶ To overcome the crisis, the USSTAF attempted an all-out attack on the German aircraft industry to defeat the Luftwaffe. Secondly, American ground planners preparing the invasion had also assessed that the threat of the Luftwaffe had to be removed before Operation OVERLORD could take place.¹³⁷ The result was Operation ARGUMENT, which outlined a series of coordinated bombardments against aircraft factories located in central and southern Germany.¹³⁸ Because of its significance, vast dimensions and the results attributed to this week of coordinated attacks, Operation ARGUMENT was named or dubbed “Big Week” after the Second World War.¹³⁹ During “Big Week”, both Bomber Command and USSTAF bombed almost all Luftwaffe airfields in The Netherlands.¹⁴⁰ Also, the bombardment of Nijmegen took place during that week, more on that later.

Further, the third peak of bombardments occurred in September and October 1944. These bombardments are linked to two major operations on Dutch soil in the fall of 1944. This was the implementation of the bombing policy directives with priority to operational interdiction, more specific ground support, as discussed earlier. In September 1944, Allied bombers supported Operation MARKET GARDEN by bombing German Army troops and locations around Arnhem. Only a month later, USSTAF and Bomber Command bombers supported the clearing of the Scheldt estuary by Canadian troops. This would allow the opening of the Antwerp harbor,

¹³⁶Glenn B. Infield, *Big Week: The Classic Story of the Crucial Air Battle of WWII* (Washington, DC: Brassey's, 1993), 23.

¹³⁷Hansell, 177.

¹³⁸United States Air Force, USSTAF Historical Division, *The Army Air Forces In World War II: Volume Three; Europe: Argument To V-E Day; January 1944 to May 1944*, ed. Wesley Frank Craven and James Lee Cate (Chicago: University of Chicago Press, 1948-1958), 30.

¹³⁹Hansell describes the launch of Operation Argument as “one of the crucial command decisions of the war.” *Source*:Hansell, 180. The force assembled for Operation Argument was “the largest in history of the American strategic forces Sixteen combat wings of heavy bombers, numbering over 1,000 planes and Sixteen RAF fighter squadrons.” United States Air Force, *The Army Air Forces In World War II*, 33; During Operation Argument 3800 bomber sorties and 3673 fighter sorties were launched. 226 bombers and 28 fighters were lost. Hansell, 182 and United States Air Force, *The Army Air Forces In World War II*, 13.

¹⁴⁰Davis.

desperately needed for Allied supplies.¹⁴¹ These two series of bombardments caused extensive collateral damage.

The records of the bombardments linked to these two major operations disclose that not only the number of bombardments is relevant, but also their individual dimensions as well. Only a few bombardments during MARKET GARDEN and on Walcheren (the peninsula north of the Scheldt estuary), account for a significant amount of the total tons of bombs dropped during the entire war. For example, during the massive bombardment on September, 17 1944, 817 aircraft of the US Eighth Air Force dropped no less than 2,707 tons of explosives. This is about ten percent of the entire tonnage figure dropped on The Netherlands for the whole war. In addition to this, sixteen massive bombardments on Walcheren, with a peak during the 326 aircraft bombardment on October, 29 1944, account for a total of 9,737 tons. This is about one third of the entire tonnage of bombs during the whole war.¹⁴² This leads to the fourth conclusion of the analysis, the amount of bombs dropped increased significantly over time. Figure 3 shows this analysis.

¹⁴¹Hitchcock, 114.

¹⁴²Data based on a Microsoft Excel query on files enclosed with: Davis.

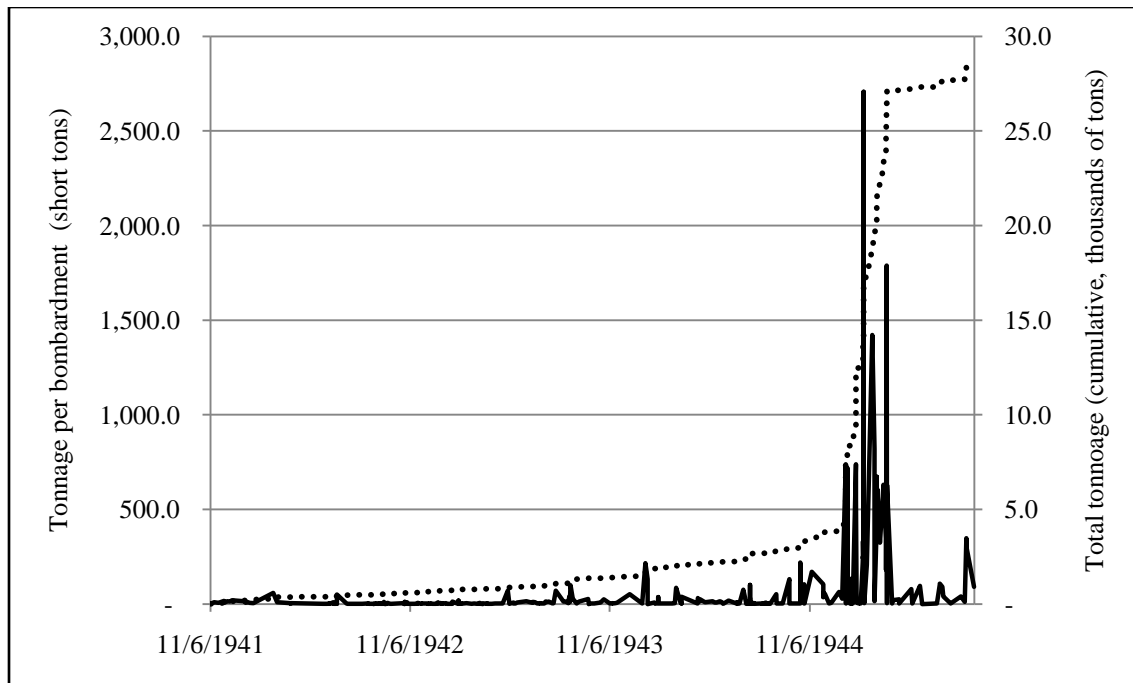


Figure 3: Tonnage of bombs (solid line) dropped on The Netherlands per bombardment (1941-1945). The dashed line indicates the cumulative total.
Source: Created by author, based on: Davis.¹⁴³

This considerable increase in tonnage has three causes. First, it corresponds with the initial constraint on bombing discussed earlier: the initial limited availability of aircraft and bombs. Due to an enormous increase in production, this availability was not an issue in 1944 anymore.¹⁴⁴ Furthermore, after July 1943 the USSTAF had entered the war as well. The second cause of this increase was the general course of the air war. In the first half of 1944, the Luftwaffe was defeated by a month-long attrition of fighters, as a by-product of the Allied bomber offensive. The immense losses sustained during this intense period of air combat lead to loss rates only the Allied air forces could sustain in the long run. As an illustration to this: during 1944 Luftwaffe's losses of fighter aircraft rose to no less than seventy-three percent of the total fighter

¹⁴³Leaflet droppings, Mining operations, Special operations and Supply droppings are excluded: no bombs were dropped during these missions.

¹⁴⁴Dodd and Knapp, 471.

strength *per month*.¹⁴⁵ However, also to the surprise of Allied analysts, German aircraft industries were still able to increase production of fighter aircraft, even after three years of strategic bombing. In this air war of attrition, the number of trained and experienced pilots proved the most decisive factor though, rather than the availability of fighter aircraft. As Werell argues, the fierce battle for air superiority proved costly to both sides, but by April, 1 1944, the Allies had clearly emerged as the winner.¹⁴⁶ Finally, they had gained the desired Douhetian command of the air. The analysis of Davis' files set coincides with this conclusion: eighty-eight percent of the bombs dropped on The Netherlands fell after July, 1 1944.¹⁴⁷ This is comparable to the fact that seventy-two percent of the bombs dropped on Germany fell after July 1, 1944.¹⁴⁸ Third and final cause of the increase in tonnage is the course of the war. After the fall of 1944, the Allied air forces were no longer needed in France, resulting in an increased number of missions on The Netherlands. Further, Allied ground operations reaching Dutch soil, obviously required extensive air support.

Amsterdam, July 1943

To illustrate the consequences of Allied bombing policy and the results on the receiving end, this monograph discusses three cases of Allied bombardments on The Netherlands. The first case study discusses the bombardments on the Fokker aircraft factory in July 1943.¹⁴⁹ Very soon after the German occupation, Dutch aircraft company Fokker had to readjust its factory in Amsterdam to assemble Dornier and Bücker aircraft frames to be used by the Luftwaffe. This caused Fokker to become a target for RAF attacks, already in September 1940. The next six

¹⁴⁵Richard Overy, *The Air War*, 78-81.

¹⁴⁶Werell, "The Strategic Bombing of Germany in World War II," 706-707.

¹⁴⁷An analysis of the number of bombers reveals a similar number: 73 percent of the bombers employed in bombing missions in The Netherlands was deployed after 1 July 1944.

¹⁴⁸Werell, "The Strategic Bombing of Germany in World War II," 707.

¹⁴⁹This analysis is based on a recent analysis of this bombardment. *Source*: Van der Pauw, *De Bombardementen op Amsterdam-Noord*.

months, seven bombardments followed, all of which were either aborted early or only caused minor damage.¹⁵⁰

Although Fokker worked extensively for the German war effort, no Allied bombardments occurred for the next two years. First, this has its roots in the other priorities of the RAF in 1941 and 1942, such as anti-submarine operations.¹⁵¹ Second, and more important, the RAF adopted its new strategy of area bombing in July 1941. As a result of this new policy, as discussed earlier, the primary objective evolved into affecting the morale of the German civil population, and in particular the industrial workers.¹⁵² The revision of bombing policy in 1943 with the Casablanca and POINTBLANK directives put Fokker back on the target list though: it was the only target in The Netherlands that was on the “secondary importance” target list.¹⁵³

Remarkably, the Dutch population was not only informed about this new bombing policy, but even got a very specific warning on upcoming bombardments. On June, 23 1943, Radio Oranje, the broadcasting station of the Dutch government in London, announced an “urgent warning” for workers in aircraft factories. It stated: “to achieve this [the liberation], the Allies have to attack the Nazis, their armaments, and arms factories. We know you will understand this.”¹⁵⁴ The message specifically named aircraft factories, urged workers to quit their job, and listeners to stay away from those locations. However, most Fokker workers could not quit their jobs: not only because it provided them an income, but most important because it protected them from *Arbeitseinsatz*. Remarkably, the radio message also contains a passage referring to the fact

¹⁵⁰Van der Pauw, *De Bombardementen op Amsterdam-Noord*, 15.

¹⁵¹See also the earlier discussion on bombing policy directives.

¹⁵²Van der Pauw, *De Bombardementen op Amsterdam-Noord*, 20.

¹⁵³Most targets on this lists were located in Germany. There were no targets in The Netherlands on the “primary importance list”. Source: Van der Pauw, *De Bombardementen op Amsterdam-Noord*, 27.

¹⁵⁴*Ibid.*, 28.

“in every air attack, even executed with the most modern equipment, a certain percentage of the bombs will miss the target.”¹⁵⁵ This turned out to be a prophetic vision.

About three weeks later, on July, 17 1943, the actual mission to attack the Fokker factory took place. It was a planned diversion from the main attack on Hamburg and Hannover. Such diversions were a common tactic. Because this diversion was not planned as deep into enemy territory as regular missions, it was classified as a shallow penetration. In common Second World War bomber parlance, bombers would describe it as a “milk-run.” This was probably the reason why this particular target was assigned to the USSTAF’s 385th and 388th Bomb Groups, as their first mission. As Dutch historian Hans Van der Pauw discusses extensively, both groups were however well informed about their specific rules of engagement. The briefing records stated very clearly: “do not bomb unless target is seen.”¹⁵⁶ Furthermore, crews were briefed about the specifics: “this target forms one of the finest pieces of camouflage ever photographed.”¹⁵⁷

The bombardment itself was characterized by poor aiming with reflective results. Because of poor visibility, the lead bomber could not find the target and did not bomb. Another bombardier in the formation did identify the target though, and dropped its bombs. He was followed by sixteen other bombers, all using the so-called drop-on-lead system. Lack of time and poor aiming probably account for the poor execution: the bombs missed the target by 600 to 1200 meters. As the official Interpretation Report clearly accounts: “no bursts were seen in the immediate vicinity of the Fokker complex.”¹⁵⁸ As a result of the failed bombardment, the effects results on the ground were devastating: the Fokker factory was located in a densely populated

¹⁵⁵Ibid., 29.

¹⁵⁶Ibid., 33.

¹⁵⁷Ibid.

¹⁵⁸Ibid., 44-47.

area in the northern part of Amsterdam. Two of the surrounding neighborhoods were largely destroyed, and the bombardment killed 186 people.¹⁵⁹

When analyzing the results, USSTAF leadership quickly realized their mistake. General Eaker's apologies to the Dutch governments for this failed bombardment have already been discussed earlier ("I plead guilty and deeply apologize."). In addition to this, Eaker assured his crews he demanded "no further demonstration [of these] promiscuous and inaccurate bombings."¹⁶⁰ Furthermore, the failed bombardment led to new instructions for USSTAF's planners, not to use high-altitude bombing in densely populated areas anymore. According to standing bombing policy, this only applied to occupied countries though.¹⁶¹

The Nazi occupiers tried to use this bombardment for propaganda purposes. The influence of this propaganda is hard to determine though. Some post-war literature claims that the Dutch population was not influenced by it. The people would see the Nazis as ultimately responsible, and the root of doom. However, a secret Allied intelligence report revealed "the morale among the people was very bad, because of the way in which this raid was carried out."¹⁶²

As a result of the earlier failure, the RAF immediately planned a new attack on Fokker for July, 25 1943. This time, from lower altitude, only seven bombs hit the factory. This bombardment demolished only a few finished aircraft, and the production hangers were not seriously damaged. Because of this raids however, Fokker further decentralized its aircraft production though. Later in 1943 Fokker worked in no less than forty-three production locations in and around Amsterdam.¹⁶³

¹⁵⁹See for an extensive description, including first-hand accounts: Ibid.

¹⁶⁰Ibid., 72.

¹⁶¹Webster and Frankland, Vol. III, 113.

¹⁶²Ibid., 68.

¹⁶³Ibid., 78.

Nijmegen, February 1944

The bombardment of Nijmegen on February, 22 1944 by the USSTAF is a second case study. This mission took place during Operation ARGUMENT (“Big Week”), as discussed earlier. The plan was to bomb aircraft factories in and around Gotha (Germany). If the bomb crews failed to bomb the assigned primary and secondary targets, they had instructions to bomb targets of opportunity in Germany.

It is not a heroic tale either, but rather an account of how things can go tragically wrong in war.¹⁶⁴ Major General James Hodges, Commander of the 2nd Bombardment Division of the US Eighth Air Force later reported this bombardment as “at least a faux pas.”¹⁶⁵ Typically, many different factors contribute to such a tragic event. On the morning of February, 22 1944, when Captain William Schmidt and his crew accompanied by almost 1,000 bombers of the Eighth Air Force lifted off from Bungay Airfield in Suffolk England to bomb deep in Nazi-Germany, they had no reason to believe they would be one of the reasons for the catastrophic events of the day. Putting the significant events of this bombardment in a logical order clarifies the causes, effects and interrelationships of the different events. Figure 4 depicts this chain of events.

¹⁶⁴This particular bombardment is discussed extensively in: Joris A.C. van Esch, *Nijmegen Bombardment on February, 22 1944: a Faux Pas or the Price of Liberation?* Master of Military Art and Science Thesis. (Fort Leavenworth, KS: US Army Command and General Staff College, 2010). This section is derived from this source. Ibid. for a discussion on the sources of failure (omitted here). See also: Joost Roosendaal, *Nijmegen '44: Verwoesting, Verdriet en Verwerking* [Nijmegen 1944: Devastation, distress and acceptance] (Nijmegen, Netherlands: Vantilt, 2009).

¹⁶⁵Harold E. Jansen, *The History of The 446th Bomb Group (H)* (Rijswijk, The Netherlands: Elmar, 1989), 56.

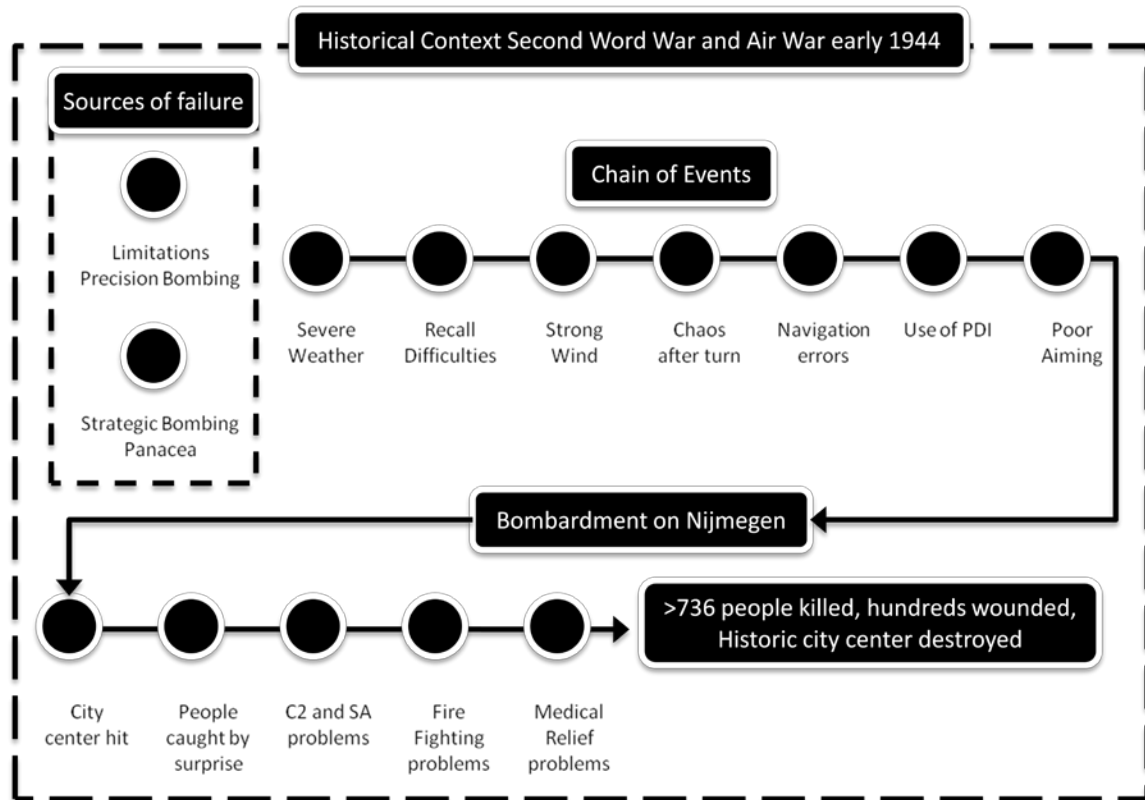


Figure 4: Chain of events for the Nijmegen bombardment.

Source: Created by author. Note: This picture shows the chain of events for February, 22 1944.

The upper half represents the events from the air perspective, the bottom half the ground perspective. The events take place within the context of the Second World War, and the air war in early 1944. Furthermore, two distinct sources of failure can be identified.

The weather forecast for the third week of February 1944 was not conducive to daylight precision bombing. However, in the ongoing war of attrition the Luftwaffe had gained momentum again, and USSTAF's Eighth Air Force senior commanders decided to launch Operation ARGUMENT anyway. On the morning of February, 22 1944, the poor weather conditions prevented forming of proper formations from the beginning, and caused the recall of the majority of bombers later. There was a thirty minute delay in receiving and confirming this recall and therefore the bomber formation flew further eastward. When the decision to turn around was made, the formation was already sixty kilometers into German airspace. At that moment, the mission commander decided not to abandon the mission outright and continued to

bomb targets of opportunity. When turning around, the strong winds broke the large combat formation into smaller groups, leading to chaos in the air. In this confusion, the first section of 446th Bomb Group with twelve aircraft and two aircraft of 453rd Bomb Group ended up above Nijmegen.¹⁶⁶ Due to navigational errors, they misidentified the city; they did not realize they were not above German territory anymore, and dropped their bombs on the Dutch city. It will however probably remain unresolved whether the bomb crews realized they were above Nijmegen at the moment they bombed. Furthermore, the records do not resolve undisputedly whether the crews were aware of their instructions not to bomb targets of opportunity in occupied countries.

Similar to the bombardment of the Fokker factory, this bombardment was characterized by poor aiming with reflective results. Aiming short of the target by the lead bombardier to compensate for excessive air speed proved wrong.¹⁶⁷ Therefore, the greater part of the bombs missed the aiming point, a marshalling yard on the outskirts of the town, by about a kilometer. Instead, the bombs landed exactly on the city center in Nijmegen. Furthermore, the formation flew in a combat-box formation and therefore used the drop on lead method, causing a bomb pattern of at least 1,500 by 500 meters. As a result, an intended precision bombardment of a target of opportunity had the practical effect of an area bombardment.

From the perspective of those on the ground, there are also distinct parts of the catastrophic chain of events. First, the people of Nijmegen grew accustomed to air raid warnings. Often the warnings were faulty, as the city had not been attacked yet, leading them to ignore the danger. On February 22, 1944, air raid sirens blared for forty five minutes without an air attack. The alarm ended at 1:15 p.m. and the people hurried back to the street, off to their work or

¹⁶⁶Note: other parts of the formation ended up above the Dutch cities Arnhem, Enschede and Deventer respectively. These cities were unintentionally as well. See for an extensive discussion: Brinkhuis, 130-135.

¹⁶⁷The limited time to set up the Norden bombsight properly and the use of the PDI aiming setting attributed to the lack of precision. PDI (Pilot Direction Indicator) is a specific setup of the Norden Bombsight used by the USSTAF. See for a discussion on PDI: Roger A. Freeman, *Mighty Eight War Manual* (New York: Jane's, 1981), 24.

schools. About ten minutes later, a new air-raid alarm at 1:28 p.m. was too late: the bombardment hit the busy city center at 1:30 p.m.

Second, the bombardment caused great difficulties for the relief workers. The destruction of an observation post and the telephone network hindered the alert of the fire department, and hampered command and control. It also prevented gaining situational awareness rapidly by the relief agencies. Additionally, the Nijmegen fire department was not equipped for such a disaster and had a lack of equipment and material to fight the fire. The bombardment also hit one of the major water pipes causing a lack of water pressure for fire-fighting operations. The firefighters also could not get close to the fires because many streets were blocked with rubble. Therefore, the fire department could not do much in the first hour: fires destroyed many buildings and caused even more casualties. Finally, the medical response faced huge difficulties as well. Ambulance capacity was insufficient and thoroughfares were blocked. This hindered the evacuation of casualties. In addition to this, hospitals did not have the spare capacity to deal with the vast number of wounded. However, with a lot of improvisation, such as temporary aid stations, the situation in the hospitals had more or less stabilized by the next morning. In total, the bombardment killed about 800 citizens, caused several hundred wounded, and destroyed the historic city center.

In London, the exiled Dutch government did not learn of the bombing until February, 24 1944, when Dutch Ambassador Michiels van Verduynen was notified by Moolenburgh. During the regular meeting of the bombing commission on 24 February the principals discussed the four bombardments on Dutch cities on February, 22 1944, but they decided to let the matter drop. At that moment, they must have been unaware of the full facts of the case. The final Eighth Air Force reports were not available yet and reliable information from The Netherlands was not available either. Remarkably, they considered there was nothing that could be done about it and decided to let the case rest. The official (but undisclosed) position of the Dutch government in

these days, was not to affront the Americans, “as these [the USSTAF] would go to the limit to prevent repetition and punish the culprit [of the bombardment].”¹⁶⁸

Dutch historian Joost Roosendaal’s recent research asserts there has never been an official objection against the USSTAF by the Dutch Government about this bombardment.¹⁶⁹ Additional research into the cable logs in between the American senior leadership in the European theatre of war and the War Department in Washington D.C. revealed why.¹⁷⁰ In a cable on February, 24 1944, USSTAF Deputy commander for operations Major General Orville Anderson discussed the mistaken bombardments of targets of opportunity with Major General Hoyt Vandenberg of the War Department in Washington D.C. Anderson accounted he was “somewhat worried that an official [Dutch] diplomatic protest might be made, but that he intended to forestall it.”¹⁷¹ The next report of a similar conversation (on 25 February) with Vandenberg however stated: “General Anderson closed [the conversation] by mentioning that he had seen the [Dutch] Ambassador and that there would be no official complaint regarding the attack by American bombers on town in Holland on Tuesday [22 February] and that the incident should be kept out of communications.”¹⁷² This undisclosed agreement in between Anderson and

¹⁶⁸Roosendaal, 71-4. Besides, the fact of the matter is the government had many other issues to care about in those days, as they struggled with the unity within the Cabinet, and three Ministers had threaten to resign. In addition to this, Roosendaal points out this modest attitude was illustrative for the Dutch administration in those days

¹⁶⁹Roosendaal, 67-9. Note: Brinkhuis has a different version of these events. He claims that Queen Wilhelmina officially protested at the US President Roosevelt. Roosendaal’s research proves there is no clear evidence to support this proposition.

¹⁷⁰Cable log was retrieved from the General Walter Bedell Smith’s Archives. The Bedell Smith records at the Eisenhower Presidential Library (Abilene, KS) cover the campaigns and operations directed by AFHQ and SHAEF. The cable logs are an important segment of this collection, and contain extracts or complete texts of messages received by or sent from the AFHQ and SHAEF on a daily basis. No copies of these logs are among the SHAEF records in the National Archives.

¹⁷¹Source: Cable Logs – Out 1943-1945. Subseries C: SHAEF. Box 21-38, Records of Walter Bedell Smith: Collection of World War II Documents, 1941-1945. Dwight D. Eisenhower Library, Abilene, KS: Box 23: Resumé of a conversation between Major General Anderson (London) and Major General Vandenberg (War Department), 24 February 1944.

¹⁷²Ibid.

Michiels van Verduynen adds important context to Roosendaal's earlier research. However there is no further evidence to support this, the source appears very reliable. Therefore, this new research reveals the Dutch government never protested officially, because Anderson forestalled the Dutch government filing one.

Remarkably, on March, 15 1944, General Henry Arnold, the Commanding General of the USSTAF, drew up a draft letter to the Dutch Government about the bombardment.¹⁷³ In this letter, he stated that he “personally expressed his deep concern and regret to the Netherlands Government and his profound sympathy with the loss of life and property to the nationals of friendly and allied nation.”¹⁷⁴ Furthermore, Anderson pointed out “faulty navigation of some isolated units” as the main causes for the failed bombardment. Also, he emphasized in his letter that “stricter measures have been taken to minimize danger to Dutch life and property.”¹⁷⁵ Arnold probably referred to his new instructions to bomb twenty miles from the Dutch-German border. The previously undisclosed agreement explains why this letter probably was never sent.

On April, 24 1944 however, about two months after the bombardment, the USSTAF used the Second World War equivalent of information operations, and dropped leaflets to explain the strategic bombardments in general, and to apologize for the bombardment to the Dutch citizens. The leaflet stated that “under the circumstances of the modern air war, sometimes harm and grief was caused to our friends.” On the other hand, the leaflet emphasized many American pilots lost their lives as well. This leaflet was USSTAF's final public account about the bombardment.¹⁷⁶

¹⁷³Ibid. Note: Roosendaal describes that the official records of the Dutch Ministry of Foreign Affairs only contain a draft version of this letter. It is not clear whether this was the official letter or a concept. The letter could not be retrieved from the National Archives Records by the author either.

¹⁷⁴Ibid.

¹⁷⁵Ibid.

¹⁷⁶The account of the leaflet is based on the war diaries of one of the Dutch government's Ministers in 1944. Roosendaal adopts this story: Roosendaal, 72. This leaflet could not be retrieved from the National Archives by the author though.

The International Red Cross described the attack on Nijmegen extensively in an official report. Further, the Red Cross “begged the British to reconsider their air assault on cities.”¹⁷⁷ There was a notable response to this report by British Foreign Minister Anthony Eden. He laconically replied with a phrase, which became illustrious: “I fear loss of life and damage to property and cultural monuments are inevitable. It is part of the price of liberation.”¹⁷⁸

For the German occupiers, the bombardment of Nijmegen by Allied bombers was of course a good propaganda opportunity. They reacted as swift as an arrow to the bombardments, using leaflets condemning the Allied actions. In general, this propaganda was not very effective: the people in Nijmegen lacked a receptive mind for this after almost four years of occupation. Probably the best evidence the propaganda was not successful, is the fact the American troops who liberated Nijmegen in September 1944 were given a very warm welcome by the citizens.¹⁷⁹

Den Haag, March 1945

The RAF bombardment on the Dutch city The Hague on March, 3 1945 is the final example in this monograph. The bombardment took place almost at the end of the Second World War, and more than a year after the Nijmegen bombardment. To put it into its historical perspective, one should go back to the introduction and launch of the first German V2 rocket in September 1944. Several of the V2’s launching sites were located in an around The Hague, because of its location close to the North Sea (and therefore the United Kingdom). Using

¹⁷⁷“[the bombardment on Nijmegen] left one third of the centre in ruins, killed 500 civilians and injured several hundred. One school was completely wiped out, and all the children and those in charge of them perished. Several churches and historic buildings were reduced to rubble and ashes.” *Source*: Hitchcock, 101:

¹⁷⁸Ibid.

¹⁷⁹Bart Jansen, *De pijn die blijft: Ooggetuigenverslagen van het Bombardement van Nijmegen 22 Februari 1944* [Eyewitness reports of the Nijmegen bombardment] (Nijmegen, The Netherlands: Boom, 2005), 24.

camouflage provided by city buildings and parks, several mobile teams launched probably a few hundred V2 rockets from this area.¹⁸⁰

Initially, this weapon posed a threat the Allies seemed to have no immediate counter for.¹⁸¹ Yet very soon a special committee was set up to coordinate the defense against these rockets. Because the V2 was a supersonic weapon, one had to attack it before its launch (in contrast with the V1). Therefore, the RAF initially employed Fighter Command for air interdiction. This implied attacking supply depots, transport routes and marshalling yards. The only effective countermeasure proved the direct attack of V2 launching sites though.¹⁸² However, initial attacks by fighters proved to be ineffective. At the end of February 1945 the Germans were still able to launch seventeen V2 rockets within twenty-four hours. As a result, the British public heavily criticized its government and the Air Ministry in particular. In their perception the “1940 Blitz” was back again. Following extensive government discussion, the Air Ministry finally decided to change its strategy and switch to bombardments of the launching sites.¹⁸³ One of the results of this policy was the bombardment of launching sites in and around the Haagsche Bosch, a large park just north of the city centre of The Hague.

As discussed extensively by Dutch historians Korthals Altes and Carlo Tinschert, the detailed planning of this bombardment can be characterized as erroneous. When planning their mission, the assigned RAF wing intelligence officer mixed up the horizontal and vertical coordinates of one of the aiming points.¹⁸⁴ This caused the aiming point to move 1250 meters, exactly located at the heart of a densely populated area. In addition to this, the RAF mistakenly

¹⁸⁰This section is based on two sources: Korthals Altes, 276-303, and Carlo Tinschert, *Boodschap aan de Bevolking van Den Haag : Oorzaken, Gevolgen en Nasleep van het Mislukte Bombardement op het Be Zuidenhout, 3 maart 1945* (Den Haag, The Netherlands: Sdu Uitgevers, 2005).

¹⁸¹Webster and Frankland, Vol. III, 96.

¹⁸²Ibid., Vol. III, 212.

¹⁸³Korthals Altes, 285-289.

¹⁸⁴Ibid., 290.

believed that the residential areas around the aiming points had been evacuated. When planning the bombardment, several Dutch pilots in the assigned RAF squadrons for this mission doubted their orders. One of these pilots was even born and bred in the area to be bombed. Therefore, the preceding night of the bombardment, their RAF squadrons repeatedly requested specific clearance and acknowledgment for this bombardment. However, a careless mistake by an ignorant duty officer at the Air Ministry in London in response to these request, caused even less strict rules of engagement to be applied. Furthermore, it caused the use of the less-precise aiming method Gee-H.¹⁸⁵

Similar to the Fokker and Nijmegen bombardments, this bombardment was characterized by limited visibility, poor aiming, and reflective results. Early in the morning of March, 3 1945, RAF's 137th Wing and 139th Wing, consisting of about sixty B-25 Mitchell and Douglas Boston bombers, raided The Hague. Both squadrons were deployed from airfields Melsbroek and Vitry around Brussels, which already had been liberated in the autumn of 1944. Although the overcast above the target area was about eighty percent, the lead bombers of both squadrons decided to bomb visually. Also because of the stormy wind, numerous overshoots and undershoots resulted. On top of this, as discussed earlier, one aiming point was wrong. In the end, about sixty-seven tons of high-explosive bombs landed in a densely populated area, the Bezuidenhout-quarter of The Hague.¹⁸⁶

Comparable to Nijmegen, this bombardment caused great difficulties for the relief workers as well. The telephone network failed. This hampered command and control, and gaining situational awareness by the relief agencies. The local fire department was not equipped for such a disaster, and had a lack of personnel to fight the fire effectively. Also, they faced a strong wind

¹⁸⁵Ibid., 276-303. See also: Tinschert. For an extensive discussion on different aiming methods used by USSTAF during the Second World War, see: Roger A. Freeman, *Mighty Eighth War Manual* (New York: Jane's, 1984), 45.

¹⁸⁶Korthals Altes, 276-303.

and a lack of water pressure, hindering fire-fighting operations. Furthermore, as Korthals Altes narrates, many people escaped chaos in the disaster area. Therefore, many small local fires were not controlled initially, and stirred up later. In the end, fires destroyed more houses than the bombardment itself did. At the end, the bombardment caused approximately 520 people killed, 3,300 houses destroyed, and left 12,000 people homeless.¹⁸⁷

Again, this bombardment caused consternation in London. In contrast with the pattern discussed earlier, it led to greater indignation. The debate centered on two points. The first point was the lack of coordination with the Dutch government on this bombardment, in particular with Moolenburgh. More important however, there was an extensive debate between the British and Dutch governments about the gross errors involved in this attack, which even continued the first years after the war. This second debate evolved into a round of political finger pointing in between the Air Ministry, RAF, and even involved Prime Minister Winston Churchill.¹⁸⁸ To elaborate a little further on this, Churchill's minutes for the Chiefs of Staff Committee on March, 18 1945 stated:

This complaint reflects upon the Air Ministry and Royal Air Force in two ways. First, it shows how feeble have been our efforts to interfere with the rockets, and, secondly, the extraordinarily bad aiming which had led to this slaughter of Dutchmen. . . . Instead of attacking these points with precision and regularity, all that has been done is to scatter bombs about this unfortunate city without the slightest effect on their rocket sites, but much on innocent human lives and the sentiments of a friendly people.¹⁸⁹

Notably, the discussion within the British government on The Hague bombardment initiated a broader debate discussing area bombardments in general.¹⁹⁰ About a week after his minute of March, 18 1945, Churchill made another incursion into the controversial area of

¹⁸⁷Ibid., 296-298.

¹⁸⁸Tinschert, 133.

¹⁸⁹As quoted in: Martin Gilbert, *Winston S. Churchill, Road to Victory, 1941-1945*, Vol. VII (Boston: Houghton Mifflin, 1986), 1176-1178. (Document accessed on 20 October 2010 on: http://www.winstonchurchill.org/images/pdfs/for_educators/road_to_victory_part_1and2excerpts.pdf).

¹⁹⁰Ibid.

bombing policy. “It seems to me that the moment has come when the question of bombing of German cities simply for the sake of increasing the terror, though under other pretexts, should be reviewed. Otherwise we shall come into control of an utterly ruined land.”¹⁹¹ This debate continued for a few weeks and concluded on April, 20 1945 with a minute by Air Ministry’s Air Chief Marshall Porter, referencing Churchill’s earlier protests: “we have already issued instructions to Bomber Command that area bombing designed solely with the object of destroying industrial areas is to be discontinued.”¹⁹²

Finally, with respect to the The Hague bombardment: there was further proof of the ineffectiveness of the bombardment. On the night after the bombardment, on March, 4 1945, the Germans were able to launch several V2 rockets from The Hague.

¹⁹¹As quoted in: Gilbert, 1176-1178.

¹⁹²Ibid.

Conclusion

Allied bombing policy towards The Netherlands in the Second World War sought to maintain a balance between the usefulness of bombing and the risk of collateral damage. The applicable Allied bombing policy directives revealed a wide variety of purposes and objectives for bombing in occupied countries, mainly determined by the progress of the war. However, all these directives had tight political restrictions in common. With the exception of operational interdiction, support to ground troops, in May 1940 and the fall of 1944, targets in The Netherlands were always secondary targets for Allied bombers.

In general, the Dutch government-in-exile realized and acknowledged the necessity of bombing targets which the Allies considered essential for the German war effort. They agreed with this policy, but continuously attempted to limit damage to civilian targets. There is at least one example where they even tried to warn citizens of an upcoming attack. Furthermore, there was significant coordination of these bombardments on the working-level, although this was particularly dependant on one individual on the Dutch side. More importantly though, regular political consultations and coordination between the Allied institutions and Dutch government failed to appear. Typically, contacts were incident-driven: regular mistakes by both Bomber Command and the USSTAF, followed by Dutch protests, and subsequent the Air Ministry's or USSTAF-leadership's apologies.

The quantitative analysis of the bombing missions on Dutch soil revealed the absolute magnitude of the bombing campaign in The Netherlands. Although of minor matter when compared with the enormity of the entire Allied air war effort, it still encompasses hundreds of missions, thousands of tons of explosives, and thousands of targets. In addition to this, the six-thousand aircraft crashed on Dutch soil in the course of the war illustrate the high intensity of the war. The quantitative analysis also revealed the variety in the types of targets for the bombardments, and the far larger bombardments from late 1944 on.

The case studies in this monograph lead to the main point here, the real nature of strategic bombing on The Netherlands, that, notwithstanding the fact of the sincere intentions and restrained policies, the *execution* of the bombardments regularly failed to attain the defined bombing goals.¹⁹³ These failures in execution caused extensive collateral damage, as illustrated by the three case studies in this monograph. First, there was the lack of accuracy during the bombardments on Amsterdam. The attack on the Fokker aircraft factory is probably also illustrative for the disappointing performance of bombers to hit and damage industry permanently. Furthermore, rapid repair, dispersion and adaption further diminished this bombardment's impact.¹⁹⁴ Second, the Nijmegen bombardment is a striking account of how things can go tragically wrong in war. Although a chain of events caused the tragedy, mistakes were the dominant factor. Third, there is also ample evidence of gross mistakes during both the planning and execution of the bombardment on The Hague.

In general, numerous factors contributed to such failures. The most important causes were battle conditions, a lack of intelligence, difficulty in identifying the targets, a lack of bombing-accuracy, inexperience, and also glaring mistakes.¹⁹⁵ As historian Sahr Conway-Lanz analyzed in his extensive study on collateral damage, these factors caused the claimed distinction between area and precision bombing in the Second World War to disappear.¹⁹⁶

As Knapp argues in the case of France, “inaccurate bombing was seldom considered [by the Allies] a reason for the combination of civilian destruction and military ineffectiveness that

¹⁹³Korthals Altes draws a comparable conclusion: restraints in planning, carelessness in execution. See: Korthals Altes, 323-324.

¹⁹⁴This is supporting evidence, and similar to Werell's claim: Werell, “The Strategic Bombing of Germany in World War II,” 705.

¹⁹⁵For a discussion of the failure of the legend of pickle-barrel accuracy, see: Van Esch, 31-37.

¹⁹⁶Sahr Conway-Lanz, *Collateral Damage: Americans, Noncombatant Immunity, and Atrocity After World War II* (New York: Routledge, 2006), 11.

typified the bombing raids.”¹⁹⁷ This conclusion applies to the case studies in this monograph as well, and most likely to most Allied bombardments in The Netherlands in general. This leads one to suspect whether this inaccuracy is illustrative of what Cohen and Gooch classified as military misfortunes: “failures of the organization, not of the individual.”¹⁹⁸ The cases discussed earlier in this monograph, where the Dutch government made a protest against specific bombardments, and the three case studies provide numerous examples of such organizational failures.

While maintaining a balance between the need to simplify and the acknowledgement of complexity, one could discern an organizational failure here. In hindsight, learning and adapting by the RAF and USSTAF leadership was deficient. Early on in the war, they realized the lack of accuracy and ineffectiveness of the bombardments. However, it can be counted against them that they failed to implement measures to overcome these shortcomings adequately, notwithstanding their continuous extensive investments in aiming techniques and equipment. Of course, in favor of the RAF and USSTAF leadership, one should also recognize Carl von Clausewitz’s well-known axiom that “war is the realm of uncertainty; three-quarters of the factors on which action in war is based are wrapped in a fog of greater or lesser uncertainty.”¹⁹⁹ Clausewitzian fog does not solely account for everything though. As an illustration, this is the case for the mistakes during the bombardment on The Hague in March 1945, although the city was covered with *real* fog. The air war encompassed tens of thousands missions and five years. After such a long period, the RAF and USSTAF leadership could have developed organizational measures to overcome such gross errors. To conclude, the discussion whether this organizational failure was the result of a steadfast belief in air power doctrine, the political-strategic need to attack the Nazis

¹⁹⁷Knapp, 483.

¹⁹⁸Cohen and Gooch, 3. Their taxonomy of misfortune recognizes three kinds of failure: failure to learn, failure to anticipate, and failure to adapt: Ibid., 26.

¹⁹⁹Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret. (Princeton: Princeton University Press, 1976), 101.

wherever possible, the lack of intelligence, or perhaps another reason, fits into the endless controversy of the strategic bombing narrative though.

Synthesis

Therefore, where does this leave us? Even in today's military operations, it is a continuing challenge to achieve intended effects by the use of airpower while attempting to limit collateral damage to civilians.²⁰⁰ Further, this probably will not change in the near future. The Allied experiences in the Second World War represent a comparable situation. Studying these experiences assists in learning on various subjects on all three levels of war.²⁰¹ The first example is a question related to command and control, specifically the dilemma between consequences of tight, restrained political control and allowing subordinates maximum freedom of decision and action. Contemporary US Army doctrine discusses the concept of "overcontrol," when commanders establish excessive limits on the subordinates' freedom of action.²⁰² The historical evidence in this monograph suggests the opposite concept "undercontrol," exists as well. This concept of "undercontrol" could occur when commanders fail to implement sufficient control measures. When planning and executing operations, one should realize this risk.

Next lesson, as Beaumont has discussed extensively as well, is that the overall Allied strategic bombing campaign ignored two of the classic principles of war: concentration and mass. As the case study on the attacks on the Fokker factory in Amsterdam illustrates, large-scale area attacks were often uneven and stretched out over time; they were affected by bad weather,

²⁰⁰Dodd and Knapp, 492.

²⁰¹See for a similar discussion: George Quester, "Bargaining and Bombing During World War II in Europe," *World Politics* 15, no. 3 (1963): 437.

²⁰²United States Army, *Mission Command: Command and Control of Army Forces; Field Manual 6-0* (Washington, DC: Headquarters Department of the Army, 2006), 3-7.

diversions, the push-and-pull of various schools of thought, and constant changes in technology on both sides.²⁰³

Third, a lesson of the Allied strategic bombing campaign in general is that military doctrine usually serves its purpose, but also has its limitations. The latter applies to the steadfast belief in the doctrine of strategic bombing prior and during the Second World War. Or, as Murray describes this lesson strikingly: “without some institutional process or consensus on the importance of subjecting doctrinal tenets . . . to *honest* evidentiary tests, it appears all too easy for military organizations to follow their hopes and dreams into catastrophe.”²⁰⁴ On the other hand, to conclude, we should also acknowledge the moral ambiguity of our history. As historian John Gaddis convincingly argues:

“Like most other nations, we got to where we are by means that we cannot today, in their entirety, comfortably endorse. Comfort alone, however, cannot be the criterion by which a nation shapes its strategy and secures its safety. The means of confronting danger do not disqualify themselves from consideration solely on the basis of the uneasiness they produce. Before we too quickly condemn how our ancestors dealt with such problems, therefore, we might well ask ourselves two questions. . . . What would we have done if we had been in their place then? And, even scarier, how comfortable will *our* descendants be with the choices we make today?”²⁰⁵

²⁰³Beaumont, 14.

²⁰⁴Murray, 143.

²⁰⁵John Lewis Gaddis, *Surprise, Security, and the American Experience*, Joanna Jackson Goldman Memorial Lecture on American Civilization and Government (Cambridge, MA: Harvard University Press, 2004), 33.

APPENDIX

Date	City	Dead	Who	Remarks
14-5-1940	Rotterdam	650-900	Luftwaffe	Coercion to capitulation
22-2-1944	Nijmegen	800	USSTAF	Mistake
3-3-1945	Den Haag	520	RAF	Mistake
31-3-1943	Rotterdam	400	USSTAF	Wind
11-9-1944	Breskens	199	RAF	Collateral Damage
17-7-1943	Amsterdam N.	185	USSTAF	Off Target
21/22-1-1945	Montfort	183	RAF	Crossroads on frontline
19/20-9-1944	Eindhoven	180	Luftwaffe	Negligence
10-10-1943	Enschede	151	USSTAF	Misidentification
5-10-1944	Westkapelle	ca. 150	RAF	Collateral Damage
6-12-1942	Eindhoven	138	RAF	Off Target; Philips factory
3/4-10-1941	Rotterdam	106	RAF	Off Target around harbor
2-10-1944	Huissen	99	RAF	Off Target
6-10-1944	Hengelo	ca. 100	USSTAF	Off Target
2-10-1944	Nijmegen	93	Luftwaffe	Waal Bridge
18-8-1944	Maastricht	91	USSTAF	Off Target
17-9-1944	Wolfheze	87	USSTAF	Off Target
16-4-1943	Haarlem	85	RAF	Off Target
5/6-10-1942	Geleen	83	RAF	Off Target
24-3-1945	Goor	82	USSTAF	Off Target
24-3-1945	Haaksbergen	75	USSTAF	Off Target
14-10-1944	Zutphen	73	RAF	Off Target
31-5-1944	Roosendaal	73	USSTAF	Railyard
23-3-1945	Nijverdal	72	USSTAF	Off Target
28/29-1-1942	Rotterdam/Schiedam	71	RAF	Harbour
24-10-1944	Dordrecht	69	RAF	German ArmyHQ
22-3-1945	Enschede	65	USSTAF	Crossroads

Table 1: Bombardments on The Netherlands, sorted on number of casualties.
Source: A. Korthals Altes, Luchtgevaar: Luchtaanvallen op Nederland, 1940-1945. (Amsterdam: Sijthoff, 1984), 300.

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